

DEVELOPMENTAL STUDENTS' PERSISTENCE TOWARDS GRADUATION IN PAIRED  
COURSEWORK PROGRAMS AMONG AFRICAN AMERICAN & LATINO MALES IN  
COMMUNITY COLLEGES

by

EuraDell Davis

A dissertation submitted to Johns Hopkins University in conformity with the  
requirements for the degree of Doctor of Education.

Baltimore, Maryland

May, 2018

© EuraDell Davis

All Rights Reserved

## Abstract

This quantitative causal-comparative research study investigated the effect of participation in accelerated paired course programs on the persistence of African American and Latino male developmental education students at Lone Star College, a community college system in Houston, Texas. Seeking to reduce high rates of attrition among its developmental education students, the college introduced paired courses, in which developmental education students could pair their developmental courses with college-level courses or other supplemental programs. Using Tinto's Model of Student Integration and Expectancy-Value Theory as a framework, the researcher hypothesized that accelerating the completion of developmental education course sequences through course pairings would reduce time towards graduation and costs associated with degree completion, thus increasing persistence towards graduation among the college's male students of color. Archival data consisting of enrollment records for an academic year were analyzed using Fisher's Exact Test to test the null hypothesis, with persistence defined as students who were enrolled during the fall semester and re-enrolled the following spring semester. Results indicated that both paired-course African American and Latino male developmental education students showed higher rates of persistence compared to their counterparts who were enrolled in both mainstream with supplemental support courses and unpaired courses. Results also indicated that while any type of course pairing increased persistence for African American male developmental students, the same relationship was not present among their Latino male peers. The study's findings contribute to literature on community college student persistence and have implications for how methods of accelerating developmental education sequences can impact the persistence of students of color.

*Keywords:* developmental education, students of color, persistence, community college



## Dissertation Approval Form

Student: EuraDell Davis

Adviser: Dr. Yolanda Abel

Dissertation Title:

Developmental's Students Persistence Toward Graduation in Paired Coursework  
Programs Among African American & Latino Males in Community Colleges

Date Approved: April 6, 2018

Required Signatures:	Signature	Print Name
Dissertation Advisor	<u>Yolanda Abel</u> <small>Original signature will be left intact in Abel</small>	<u>Yolanda Abel</u>
Committee Member	<u>Henry Smith</u>	<u>Henry Smith</u>
Committee Member	<u>Annette Anderson</u>	<u>Annette Anderson</u>
Committee Member		
Student	<u>EuraDell Davis</u>	<u>EuraDell Davis</u>

PASS X

PASS WITH CONDITIONS \_\_\_\_\_

FAIL \_\_\_\_\_

The Dissertation Adviser must submit the completed form to the Director(s) of the Doctor of Education Program for inclusion in student's doctoral folder.

Please note any special requirements below.

## Dedication

“Now unto Him that is able to do exceeding abundantly above all that we ask or think, according to the power that worketh in us” (Ephesians 3:20).

This dissertation is dedicated to my loving parents, Claude and Jessie Pearl Davis. Thank you for training me in the way of the Lord, for taking me to church *four* days a week, and for Sunday morning prayer and devotion. The spiritual principles you taught me were the catalyst to my relationship with God. Thank you for teaching me perseverance, discipline and good work ethics through your example. Mom, through your silent guidance you taught me the importance of education and for this I am grateful. Dad, I am still learning, developing and growing from the wisdom and lessons you shared with me. I never knew my life would take this path, but you both knew and started training me early to endure the task. The sacrifices you made have brought me this far and as I continue my journey I will always honor you. *The Best Parents Ever, Claude and Jessie Pearl Davis, I love you.*

## **Acknowledgements**

The completion of this dissertation would not have been possible without the help and support of many individuals. First, I acknowledge my parents, Claude and Jessie Pearl Davis for giving me life and the unconditional love they gave me. Words are inadequate to express my deep love for my siblings: Monique Washington, Cherry Wilcots, Dwight Davis and Lydia Davis. Your support and unending inspiration helped me to persist. You are the best siblings in the world. To my beautiful nieces Jordan and Brooke Wilcots, I appreciate your prayers, phone calls and text messages cheering me on every step of the way. In addition, your constant positive and affirming presence was so encouraging. I am proud to be your Nannie and to witness you become young women. To my pastor/brother-in-law, Anthony W. Wilcots, Sr., thank you for your continuous support and your devotion to learning. Your work ethic is impeccable, and through your sermons, you challenge me to be all that God has destined me to be. A very special gratitude is extended to my Uncle H. and Aunt Ida for carrying the torch when my parents transitioned. You have constantly been there for me through surgeries and this program. I am grateful God allowed you to see me complete the pinnacle of my education. Finally, without hesitation, my cousin Jaylon Cornell prayed me through.

Special mention goes to my friend and fellow doctoral colleague, Lisa Brooks (Pepperdine University). You made this journey incredibly special. Your collaboration, friendship, sharing and feedback were priceless. Similar profound gratitude goes to Mother Rebecca Porter whose prayers, words of encouragement, wisdom, and insight motivated me to persevere. I am also indebted to my other family members and friends who have supported me along the way.

I would like to express my deepest gratitude to Dr. Shannon Williams who coached me as I worked on my research. Your unbelievable support, patience, brilliance and contribution to my research were instrumental, and I tremendously appreciate your help.

The impeccable contributions, hard work, and support provided by my doctoral committee were invaluable; therefore, I would like to acknowledge Dr. Yolanda Abel, Dr. Henry Smith and Dr. Annette Campbell Anderson. Your unique perspectives were irreplaceable and this study would not have been possible without your attention to detail and pivotal questions. Special thanks go to my committee chair Dr. Abel. Your guidance and ability to push my thinking were instrumental for the culmination of my study. You accepted this role in the middle of my program, coached me and offered me sound advice which gave me the determination I needed to complete this enormous task. In addition, I want to acknowledge Dr. Smith for his support and thought-provoking feedback from the inception. Your passion, expertise and unique perspective on community colleges was very important to my research. (Henry: Thank you for accepting me into this program.) Finally, I acknowledge Dr. Anderson for joining my committee in the middle of the program. During my dissertation defense your encouragement was a helpful push for me to continue my work on supporting minority students to persist and achieve academic success.

Although an online doctoral program would seem to provide little opportunity for social contact and relationship building, during this program I grew close to several of my 2014 cohort: Christina Jordan, Renae Azziz, Kyle Fahsel, Kristen Moore, Kaycee Brock and Pilar Torres. The many google hangouts, phone calls and text messages allowed me to meet another deadline; making you all essential to my success.

I am very appreciative to my colleagues at Lone Star College – Montgomery for their enthusiastic support and the kind words they provided throughout this journey: Brandy Harvey, Beverley Turner, Lori Hughes, Lana Myers, Melissa Dennis, Samuel Thomas, Naomi Fernandez, Jae Jung, Cynthia Maclin, and Ashley Levenson. Thank you all for your sincere interest in my studies.

I close my acknowledgements reflecting on a person who served a significant role in my life.

“Hast thou not known? hast thou not heard, that the everlasting God, the LORD, the Creator of the ends of the earth, fainteth not, neither is weary? there is no searching of his understanding. He giveth power to the faint; and to them that have no might he increaseth strength. Even the youths shall faint and be weary, and the young men shall utterly fall: But they that wait upon the LORD shall renew their strength; they shall mount up with wings as eagles; they shall run, and not be weary; and they shall walk, and not faint”  
(Isaiah 40:28-31).

Apostle E.W. Wilcots: Thank you for your teachings on faith and sacrificial giving, for your counsel, wisdom, and inspiration. You knew that this doctoral degree was “already in the script.”

***--I Am Encouraged.***

## Table of Contents

List of Tables .....	xiv
List of Figures .....	xvi
Executive Summary .....	1
▪ Focus on culture-based equity when addressing minority male persistence .....	5
▪ Seek to identify and address what hinders Latino males from realizing the benefits of participation in paired courses .....	5
▪ Offer paired courses over mainstream ‘paired with support’ courses to increase minority male persistence. ....	5
Chapter 1: Introduction to the Study .....	6
Background of the Study .....	9
Males of Color & Collegiate Attainment.....	9
African American Males & Collegiate Attainment .....	10
African Americans and education.....	10
College enrollment.....	11
Reasons for selection of community colleges.....	12
College completion. ....	12
Persistence among African American college students. ....	14
Recommendations for increasing persistence among African American students. ....	17
Latino Males & Collegiate Attainment.....	18
Latinos and education .....	18
College enrollment rates .....	21
Reasons for selection of community colleges.....	22



College completion .....	24
Persistence among Latino college students.....	25
Recommendations for increasing persistence among Latina/o students.....	30
Male Students of Color & Developmental Education .....	32
Developmental Education in Community Colleges.....	34
Persistence among Community College Students .....	42
Statement of the Problem of Practice.....	43
Advancing Scientific Knowledge .....	44
Significance of the Study .....	45
Summary and Organization of the Remainder of the Study .....	47
Chapter 2: Empirical Examination of Factors Underlying Persistence of Developmental	
Education Students.....	49
Goals and Objectives .....	51
Methodology .....	51
Context.....	51
Participants.....	52
Instrumentation .....	52
Data Collection .....	55
Data Analysis .....	55
Variables .....	56
Self-regulation.....	56
Social Connectedness.....	56
Self-efficacy .....	57

Needs Assessment Results .....	57
RQ1. What is the relationship between the gender of freshman developmental education students and levels of self-regulation, social connectedness, and self-efficacy? .....	57
RQ2. What is the relationship between the marital status of freshman developmental education students and levels of self-regulation, social connectedness, and self-efficacy? .	59
RQ3. What is the relationship between the age of freshman developmental education students and levels of self-regulation, social connectedness, and self-efficacy? .....	60
RQ4. What is the relationship between the ethnicity of freshman developmental education students and levels of self-regulation, social connectedness, and self-efficacy? .....	62
Reliability and Validity Analysis.....	63
Implications.....	63
Chapter 3: Developmental Education and Persistence Literature Review .....	65
Theoretical Framework.....	67
Tinto’s Model of Student Integration .....	67
Eccles and Wigfield’s Expectancy-Value Theory .....	70
Factors Negatively Impacting Persistence among Developmental Education Students in Community Colleges .....	72
Requirement to Enroll in Developmental Education .....	72
Financial Costs.....	74
Emotional / Psychological Costs of Being Labeled “Remedial” .....	75
Time-to-Degree Delays.....	75
Lack of Adequate Institutional Resources .....	76
Environmental Pull Factors.....	77

Factors Positively Impacting Persistence among Developmental Education Students in	
Community Colleges .....	79
Pre-college Characteristics and Traits .....	80
External College Support / Community Influences .....	82
Student Engagement / Social Involvement .....	82
Engagement in extracurricular activities outside of the classroom. ....	85
Engagement in relationships .....	86
Engagement in learning communities.....	86
Academic Integration.....	89
Programs that Accelerate the Completion of Developmental Education Coursework.....	91
Synthesis of the Literature .....	95
Overview of Proposed Research Study.....	97
Chapter 4: Methodology for Conducting Paired-Course Evaluation.....	99
Research Design.....	102
Research Design.....	103
Outcome Evaluation.....	106
Method .....	108
Participants.....	108
Sample.....	110
Participant selection .....	110
Instrumentation .....	111
Procedure .....	112
Data collection .....	113

Data analysis .....	114
Summary diagrams .....	114
Summary .....	116
Chapter 5: Findings and Discussion .....	118
Process of Implementation.....	119
Data Collection .....	119
Descriptive Statistics.....	120
Results.....	126
Discussion .....	130
Participation in Paired Courses Increases Collective Persistence among Minority Males.	131
Participation in Paired Courses Affects African American & Latino Male Persistence	
Differently .....	133
Unknown Factors Hinder Latino Males from Realizing Paired Course Benefits.....	135
Discussion of Findings of Student Integration and Expectancy-Value Theories .....	136
Conclusions and Recommendations for Stakeholders & Education Professionals .....	139
Focus on Culture-based Equity when Addressing Minority Male Persistence.....	140
Seek to Identify and Address what Hinders Latino Males from Realizing the Benefits of	
Participation in Paired Courses.....	141
Offer Paired Courses over Mainstream ‘Paired with Support’ Courses to Increase	
Persistence.....	142
Proposed Application of Study Findings .....	143
Study Limitations.....	145
Recommendations for Future Research .....	147

Summary .....	147
References .....	150
Appendix A .....	165
IRB Approval Letter from Johns Hopkins University .....	165
.....	166
Appendix B .....	167
IRB Approval to Conduct Research at Lone Star College .....	167
Appendix C .....	167
Tables of Summarized Findings for Needs Assessment .....	168
Curriculum Vitae .....	170

## List of Tables

Table 1. Frequency Distribution of Students .....	52
Table 2. One-Way Analysis of Variance of Self-regulation by Gender .....	58
Table 3. One-Way Analysis of Variance of Social Connectedness by Gender .....	58
Table 4. One-Way Analysis of Variance of Self-efficacy Scale by Gender.....	58
Table 5. Gender, Self-regulation, Social connectedness and Self-efficacy .....	58
Table 6. One-Way Analysis of Variance of Self-regulation by Marital Status .....	59
Table 7. One-Way Analysis of Variance of Social Connectedness by Marital Status .....	59
Table 8. One-Way Analysis of Variance of Self-efficacy Scale by Marital Status .....	60
Table 9. Marital Status, Self-regulation, Social Connectedness, and Self-efficacy .....	60
Table 10. One-Way Analysis of Variance of Self-regulation by Age .....	61
Table 11. One-Way Analysis of Variance of Social Connectedness by Age .....	61
Table 12. One-Way Analysis of Variance of Self-efficacy Scale by Age.....	61
Table 13. One-Way Analysis of Variance of Self-regulation by Ethnicity .....	62
Table 14. One-Way Analysis of Variance of Social Connectedness by Ethnicity .....	62
Table 15. One-Way Analysis of Variance of Self-efficacy Scale by Ethnicity.....	62
Table 16. Demographics of Developmental Education Students on LSC Campuses Offering Paired Courses .....	122
Table 17. Overall Completion Rates of LSC Developmental Education Students Enrolled in Paired Coursework (Mainstream ‘Paired with Support’ and Paired Course).....	123
Table 18. Overall Completion Rates of LSC Developmental Education Students Enrolled in ENGL0309 as a Standalone, Non-accelerated Course .....	124
Table 19. Treatment Group – African American and Latino Male Students Enrolled in Paired	

Coursework (Mainstream ‘Paired with Support’ and Paired Course) .....	125
Table 20. Control Group – African American and Latino Male Students Enrolled in ENGL0309 as an Unpaired, Standalone Course .....	126
Table 21. Cross-tabulation of Persistence and Type of Group (Control vs. Two Types of Pairing) .....	128
Table 22. Cross-tabulation of Persistence and Type of Group (Control vs. Any Type of Pairing) .....	129

## List of Figures

Figure 1. Post-tests only nonequivalent group design diagram .....	106
Figure 2. Research summary matrix .....	114
Figure 3. Research summary diagram .....	115



## **Executive Summary**

High attrition, or the lack of retention and graduation of students, is considered the greatest of all concerns that community colleges face. Students who attend community colleges often fail to persist towards graduation, leaving the school before they complete their degree. Researchers suggest that the high attrition and lack of persistence of community college students is in large part that nearly half of all students accepted into U.S. community colleges enroll in these educational institutions underprepared with the fundamental academic skills that are necessary to succeed in completing college-level coursework (Brock, 2010).

To address the lack of preparation of incoming students, community colleges often assign these underprepared students to complete a sequence of developmental education courses to boost their academic skills in key subject areas like reading, writing, and math. Traditionally, these developmental course sequences must be completed before the students are eligible to enroll in college-level coursework and they do not count towards graduation. Thus, participation in developmental courses not only increases the time that it takes for students to complete the college credits that they need to graduate, but the classes increase the costs associated with obtaining a college degree and reduce students' motivation to persist towards graduation (Bailey, 2009).

Being assigned to developmental education courses is associated with a lack of persistence and progress toward graduation: less than one-third of students who enroll in developmental education courses complete a certificate or a degree within eight years of their enrollment in the college (Bailey & Morest, 2006). This is because when students perceive that it will take too long to complete their degree, they tend to lack persistence, and they drop out of

school prior to the completion of a degree or before transferring to another educational institution.

While a lack of persistence and progress towards graduation is a concern for all community college students, it is of marked concern for African American and Latino students, particularly the male members of these cultural minority groups (Brock, 2010). This is because a significant gap in educational attainment exists between men of color and other students who attend postsecondary colleges and universities, and they have the lowest college completion rate of all other race and ethnic groups on college campuses (Center for Community College Student Engagement, 2014).

Community colleges are faced with the challenge of developing innovative methods around the traditional process of developmental education that will help them to effectively retain academically underprepared students, particularly minority students (Bailey, 2009). One such method that is currently being piloted at some institutions is course pairing, which is offered as an alternative to the traditional method of completing developmental education sequences. Accelerated course pairing allows students to simultaneously complete developmental education courses and college-level courses (referred to as paired courses), or to pair a college-level course with some other developmental support course (referred to as mainstreaming with supplemental support), but designated as *mainstream 'paired with support'* throughout this dissertation. This experimental method of course pairing has been shown at other community colleges to increase students' persistence in staying in school and progress towards graduation (Visher, Weiss, Wesissman, Rudd, & Wathington, 2012).

Lone Star College (LSC) system has begun offering developmental education students across its six campuses the opportunity to participate in paired coursework programs, a move

designed to accelerate the time necessary for developmental education students to graduate. Administrators believe that if LSC can effectively implement developmental education acceleration programs and encourage students to participate in them, this could be a key factor in fostering persistence among its developmental education students on the campus. In turn, LSC would benefit by seeing a reduction in the rate of attrition among its students, an outcome that benefits all involved. While course pairing was introduced on LSC's campuses, it was not known how effective the paired-coursework model of acceleration would be in fostering persistence and progress towards graduation of the school system's African American and Latino male developmental education students.

In conducting this research, the researcher examined whether participation in paired coursework learning communities could facilitate persistence and progress towards graduation among African American and Latino male developmental education students. The purpose of the research study was to investigate how participation in an accelerated paired-course program could influence the persistence of African American and Latino male developmental education students to progress towards graduation. Based on previous research, the researcher predicted that African American and Latino male developmental education students engaged in accelerated paired-course programs would demonstrate greater persistence than those enrolled in unpaired, non-accelerated developmental education courses.

Every developmental education student on LSC's campuses received the opportunity to voluntarily enroll in paired courses during the Fall 2016 semester. With records received from LSC registrars on each campus, the researcher examined how many male developmental education students of color enrolled in developmental English as paired courses (or as mainstream 'paired with support' courses) during the Fall 2016 and how many of them took an

unpaired developmental English course. Of these students, those who also enrolled in the next course in their sequence during the Spring 2017 semester were considered to have shown persistence.

After analyzing the enrollment records of the male developmental education students of color for the two consecutive semesters, the researcher ascertained that differences existed between African American and Latino males who participated in paired courses versus those who participated in developmental English as a standalone course. Specifically, the researcher found:

- When African American and Latino male developmental education students were examined as a collective group, those who enrolled in paired courses showed the highest levels of persistence (87%), followed by the mainstream ‘paired with support’ group (77.2%), and then the control group (67.6%).
- When African American and Latino male developmental education students were examined as a collective group, the persistence of those who enrolled in paired courses (87%) was higher than the persistence of their counterparts who enrolled in mainstream ‘paired with support’ courses (77.2%) and the persistence of the control group enrolled in unpaired courses (67.6%).
- When African American and Latino male developmental education students were examined as individual groups participating in paired courses versus unpaired courses, participation in paired courses affected African American and Latino males’ persistence differently. Enrollment in mainstream ‘paired with support’ or paired courses significantly (based on p-value) increased persistence for African American males (89.7% compared to 64% in the unpaired control group), but the

same significant relationship did not hold for Latino males enrolled in paired courses (75.3% compared to 69.2% in the unpaired control group).

The goal of the current research study was to gather data that would help community colleges develop more effective paired coursework acceleration programs for African American and Latino male developmental education students, programs that would be effective in helping this population of students to persist and graduate from their institutions. As such, based on the outcomes of the research, the researcher recommends that community college leaders consider the following:

- Focus on culture-based equity when addressing minority male persistence
- Seek to identify and address what hinders Latino males from realizing the benefits of participation in paired courses
- Offer paired courses over mainstream ‘paired with support’ courses to increase minority male persistence.

Based on the findings and conclusions of this research, the researcher proposes the development of an intervention on community college campuses that would require African American and Latino male developmental education students to participate in paired courses, in a program that includes a culture-specific mentoring component, until all required developmental education sequence is completed. This intervention is designed to reduce time towards graduation and costs associated with obtaining a college degree while increasing the expectancy of and fostering the persistence towards graduation of male students of color enrolled in community colleges (Bailey, 2009; Visser et al., 2012).

## **Chapter 1: Introduction to the Study**

In 2009, President Barack Obama established a goal designed to have a significant impact on the development of the nation's workforce, and subsequently, stimulate the trajectory of the U.S. economy: to graduate five million more Americans from U.S. community colleges by the year 2020 (Obama, 2009). In setting forth this goal, President Obama openly acknowledged the significance of community colleges and the role that they play in helping to prepare a skilled workforce, a key factor in addressing the widespread economic challenges faced by the nation (Lothian, 2009). Additionally, placing community colleges in the national spotlight by linking them to the nation's overall economic well-being placed unprecedented pressure on these educational institutions to increase their graduation rates (Burns, 2010).

To attain the goal of graduating millions more Americans from community colleges, it remains necessary for community colleges to not only enroll but also to retain, develop and graduate a skilled workforce that is sufficiently prepared to meet the human resource needs of U.S. employers (Burns, 2010). However, while enrollment of students in community colleges has not been an obstacle, the retention and graduation of these students has remained problematic (Brock, 2010). In fact, it is considered the greatest of all the concerns that many colleges face (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008). Although more high school graduates are enrolling in college than ever before, this increase has not resulted in a proportional increase in students completing and graduating from college (Bound, Lovenheim, & Turner, 2010). In an analysis of the National Longitudinal Study of the High School Class of 1972 and the National Educational Longitudinal Study of 1988, Bound and colleagues (2010) compared the eight-year college completion rates between high school students who graduated in 1972 and those who graduated in 1992. They discovered a nearly five percent drop in completion rates among

students who attended community colleges and less-selective universities with almost all of the decline in college completion rates being among men (Bound et al., 2010).

According to Brock (2010), students who start their higher education journey at a four-year university or college had a 60% graduation rate in the 1995-1996 school year while students who started their higher education journey at a community college had a graduation rate of 32% in the same year. The most recent data indicate that in 2000, three-year graduation rates among first-time community college students was approximately 30% (Integrated Postsecondary Education Data System (IPEDS), 2003), and less than half of all students who entered community college completed their studies to earn a certificate or degree within eight years of first enrolling at the institution. Of this less than 50% of students, 6% earn certificates, 18% earn bachelor's degrees, and 15% earn associate's degrees (Bailey and Morest, 2006).

Academic literature supports that the high attrition rate and failure of students to complete college, particularly where community colleges are concerned, is directly attributable to the lack of developmental education effectiveness necessary to prepare students to enroll and succeed in college-level courses. In a study of 57 community colleges across the U.S., Hern's (2012) research showed that among the developmental education student population, when students are placed three or more proficiency levels below college-level math at an institution, less than 10% of these students will ever progress toward taking and completing a college-level math course. According to Hern (2012), "community colleges weed out more than 90% of these [developmental education] students before they get through the first gate" (p. 60).

Researchers have consistently found that students who enter community colleges underprepared to begin college level work and in need of remedial development tend to not persist in completing the required coursework and graduating (Brock, 2010). According to

Bailey (2009), “students who enroll in remediation are less likely to complete degrees or transfer than non-developmental students” (p. 15). Brock (2010) posited that “college completion rates in the United States are not likely to improve until substantially greater numbers of students break through the remedial barrier” (p. 119), while Orange and Ramalho (2013) reported that “postsecondary remedial education is a major problem for higher education, affecting retention rates, degree completion rates, and cost of enrollment” (p. 52). As Hern (2012) explained, “the problem is fundamentally structural. Attrition is high in developmental sequences, but more important, attrition is exponential. As students fall away at each level, the pool of continuing students gets smaller and smaller until only a fraction of the original group remains to complete the sequence” (p. 61).

While lack of persistence and progress towards graduation is a concern for all community college students, it is of marked concern for African American and Latino students, who tend to leave community colleges before certificate or degree completion and without transferring to another college or university at rates disproportionately higher than their White and Asian counterparts (Davis & Palmer, 2010). While only 31% of White students need developmental education, 41% of Latino students and 42% of African American students require some level of developmental education when they enter college (NCSL, 2012; Orange & Ramalho, 2013).

Community colleges are faced with the challenge of developing innovative methods around the traditional process of developmental education that will help them to effectively retain academically underprepared students, including minority students. Recognizing this, many community colleges have embarked upon “a dramatic expansion in experimentation with new approaches” towards retaining developmental education students, helping them to persist and ultimately succeed (Bailey, 2009, p. 12). One such method that is currently being piloted at some



institutions is that of pairing courses, which allows developmental education students to accelerate the time that it takes to complete their recommended courses and fulfill graduation requirements. The accelerated paired-course option is offered as an alternative to the traditional model, which requires students, for example, to complete remedial-level coursework before being permitted to take college-level coursework (Visher, Weiss, Weissman, Rudd, & Wathington, 2012). This experimental method of course pairing has been designed to increase students' persistence in staying in school and progress towards graduation. However, it was not known how effective the paired-coursework model of acceleration would be in fostering persistence and progress towards graduation of the school system's African American and Latino male developmental education students. Thus, additional research was necessary to determine if participation in accelerated paired coursework learning communities could facilitate persistence and progress towards graduation among African American and Latino male developmental education students.

## **Background of the Study**

### **Males of Color & Collegiate Attainment**

A significant gap in educational attainment exists between men of color and other students who attend postsecondary colleges and universities (CCCSE, 2014). Not only do White and Asian students outpace African American and Latino men of color, but their female counterparts also experience greater levels of success, creating a wide and consistently-growing gender gap (CCCSE, 2014). "Black and Latino males are among the least understood community college students. Most educators are aware that, overall, women are doing better than men... but few understand the reasons behind these gender inequities and, most important, what to do about this perplexing issue" (CCCSE, 2014, p. 4). It is incumbent upon federal, state, and local policy

makers as well as educational institution leaders, to understand and address the crisis that exists among men of color in the nation's community colleges.

Three fundamental facts are utilized by CCCSE (2014) as a starting point to understanding the need for better understanding men of color in community colleges:

1. Current solutions are not adequate to address the nature and scale of the challenges that colleges must rise to meet.
2. Everyone benefits if community colleges better serve men of color.
3. Colleges can better serve men of color by implementing effective educational practice for all students, while also emphasizing campus diversity, cultural competence, and other strategies for reducing stereotype threat (p. 4).

According to Victor Saenz, Executive Director of Project MALES and the Texas Education Consortium for Male Students of Color, "ultimately, a commitment to the success of male students of color must be woven into the very fabric of the institution. It must be reflected in all student success initiatives, all interventions, and all strategic planning conversations" (CCCSE, 2014, p. 1). This commitment begins with a comprehensive understanding of the backgrounds of African American and Latino men of color, including their educational background, cultural contexts, and challenges.

### **African American Males & Collegiate Attainment**

**African Americans and education.** Prior to the 1960's, because of discriminatory attitudes and federal laws, African Americans were not permitted to enroll in colleges and earn college degrees in many states in the U.S. (Brock, 2010). In 1963, the U.S. government introduced a groundbreaking program, a move that would lead to an increase of African Americans in college. This program, which increased government spending on higher education

in 1966 to \$3.5 billion (up from the \$655 million that it spent in 1956), provided funding for the construction of facilities with a concentration on Historically Black Colleges and Universities (HBCU's) and community colleges, the types of educational institutions that served many African Americans (Brock, 2010). Around the same time, several other historical events occurred, each of which would result in African Americans' increased enrollment in higher education institutions: (a) the U.S. Congress made race-based discrimination illegal in schools and other public sites through the passing of the Civil Rights Act of 1964 and the Higher Education Act of 1965; (b) civil rights leaders successfully fought against many of the *de jure* and *de facto* laws set in place to keep African Americans excluded from institutions of higher education and to prevent African Americans from receiving a quality education, especially in the southern states of the U.S.; and (c) scores of Great Society initiatives and programs, championed by civil rights leaders, helped to provide low-income African Americans with the funding that they needed to pursue higher education (Brock, 2010).

**College enrollment.** Although there is increased access to higher education and more diversity among higher educational institutions as a whole, the rates of college enrollment among African Americans relative to other populations remains low. For example, in 2006, while the number of Whites ages 18 to 24 enrolled in college was 44%, African Americans enrollment for the same demographic and in the same year was only 32%, and for Latinos, it was 25% (Brock, 2010). As Brock (2010) explained, "rates of college attendance for African American and Latino males are particularly low" (p. 115). There are several reasons to which researchers attribute the lower enrollment of African Americans in college, including such deterrents as: (a) the financial cost of obtaining a college education, (b) the inability to receive financial aid, and (c) the lack of knowledge about what steps one should take to enroll in college (Brock, 2010).

**Reasons for selection of community colleges.** Another issue affecting African American college student enrollment is the under-preparedness of many African American students. African American students graduate from high schools underprepared at disproportionate rates to their White and Asian counterparts and are, as a result, overrepresented in developmental education programs in community colleges throughout the U.S. at twice the rate of their White and Asian peers (Davis & Palmer, 2010). Thus, when many African Americans do enroll in college, because of the limitations that prevent them from being qualified for admission to many four-year colleges and universities, many of them enroll in community colleges (Davis & Palmer, 2010). The open enrollment policy of community colleges, which allows open enrollment to all students, has helped to increase diversity among the demographics that compose student body populations across the U.S. “Specifically, females, African American, and Latino students are disproportionately enrolled in community colleges” (Brock, 2010, p. 114). This trend is not without challenges. Davis and Palmer (2010) found that “African American students who begin higher education at two-year colleges are significantly less likely to complete a baccalaureate degree program when compared to their peers who begin at a four-year institution” (p. 514).

**College completion.** Gaining access to entry at U.S. colleges and universities is only the beginning of the challenge that exists among African Americans and academia. Once African Americans are enrolled, colleges and universities must develop innovative ways to retain these students and to ensure that all students, including racial and ethnic minorities, succeed in school and graduate so that they are adequately prepared to develop careers, live sustainable lives and make valuable contributions to society (Creighton, 2007). Like other populations, African Americans also desire to complete their college education, as the community realizes that

obtaining a college education is considered in the U.S. to be the means to a better life because it allows an individual access to greater employment opportunities, higher earnings, and increased social capital (Tinto, 1993).

When enrolled in colleges and universities, Buchmann and DiPrete (2006) found that African Americans receive significantly lower grades than their counterparts of other ethnicities. There are also differences in college attainment among African American men and women. In general, male students tend to fare worse in completing college and completing a degree than other populations. The research of Bound and colleagues (2010) showed a decline in the rates of men's college completion when they examined high school graduates from 1972 to 1992, noting, "college completion rates have been the most pronounced for men who first enroll in less selective public universities and community colleges" (p. 129). Women represent 67% of all bachelor's degrees earned by African Americans (Buchmann & DiPrete, 2006). White men once earned the majority of all bachelor's degrees awarded to Whites, but this trend reversed in 1982 when White women began earning the majority of all bachelor's degrees awarded to Whites. However, among African Americans, as the gender gap has always existed between men and women, with African American women earning the majority of all bachelor's degrees awarded to African Americans as recorded in research from as early as 1954 (Buchmann & DiPrete, 2006). When the lower completion rate of males are coupled with the low completion rate of African Americans, this suggests that African American males fare the worse of all students attending college in the U.S. (Hagedorn & Maxwell, 2001) and makes the topic of how to increase African American male persistence and progress toward graduation a topic worthy of research consideration.

**Persistence among African American college students.** Persistence among African American students is a topic of great relevance when undertaking research on community colleges. Brock (2010) reported rates of persistence and college completion by race and ethnicity, noting that the group with the highest rates of persistence and completion at public four-year colleges and universities are Asian and Pacific Islanders, followed by Whites (non-Latino), Latinos, and finally, African Americans (non-Latino). The group leading in rates of persistence and completion, the Asian and Pacific Islanders, were almost two times as likely to complete a college degree or still be enrolled in college after six years as African Americans (non-Latino) in 1995-1996 (Brock, 2010). Brock (2010) also recorded rates of persistence and college completion between males and females, noting that the rates between the two genders differed by institution type; females demonstrated higher rates of persistence and college completion than men at public four-year universities and colleges, although the difference is a slight one, being only 5% higher. However, the study showed that males demonstrated higher rates of persistence and college completion than women at community colleges. Overall, regardless of whether the educational institution is a two-year community college or a four-year university or college, females are awarded more degrees – both associate's and bachelor's degrees – than men (Brock, 2010).

According to Creighton (2007), most research that has investigated the retention of African American students has focused on: (a) students' attributes prior to entering the college or university; (b) how well they are personally and normatively integrated into the college's culture; (c) students' academic goals and commitments towards their academic institution; and (d) the experiences they have while enrolled at the institution.

First, pre-entry traits and characteristics possessed by the individual have a strong bearing on the retention of African American students. Schwartz and Washington (2002) conducted a study to determine how student attributes prior to enrollment and experiences in college would impact the academic performance and retention of 229 African American freshmen. The results indicated two strong factors positively associated with retention and returning to college the following semester: having a higher rank in high school and having a perception of being strongly integrated into the fabric of the college campus. Researchers have also discovered other pre-entry attributes that affect retention among African American students in general, including participating in pre-college academic programs, which significantly and positively impacted retention rates, and students' unrealistic expectations of college, which negatively impacted retention rates (Creighton, 2007). Among African American male students specifically, researchers have discovered a link between having better grades in high school grades and experiencing higher rates of retention in college (Hagedorn, Maxwell, & Hampton, 2002). Buchmann and DiPrete (2006) discovered that African American males "gain a differential advantage when they have a father in the home with some college education, and that they lose this advantage when their father has only a high school education or is absent" (p. 534).

Next, how well African American students are personally and normatively integrated into the college's culture can impact their level of retention. Among students in general, when students are actively involved in the life of the campus, successfully integrated into the culture of the school, and have a social life that connects them to peer groups, other students, administrators, and faculty members of the university of community, this has a significant positive effect on their retention (Terenzini, 2005). Among African American students

specifically, student development counselors and their work to help African American students become integrated into the campus culture has a positive impact on retention (Flowers, 2004).

Then, African American students' goals of attaining a college degree and commitment towards their academic institutions also significantly impact their level of retention in college. Among students in general, according to Tinto (1999), when students are committed to their academic institutions, their rates of retention are higher because there is a greater likelihood that they will persist and complete school. This is also true for African American students: when they perceive that their personal goals and academic interests are consistent with the mission of the college or the university they attend, this may increase their sense of social support, and consequently, their level of commitment to the academic institution (Flowers & Pascarella, 2003).

Finally, the experiences that African American students have while enrolled at an institution impact their retention and progress toward graduation. Rowley (2000) discovered that when African American students experienced a lack of support services on campus, or when they experienced incidents of discrimination or social isolation, these experiences negatively impacted their retention. Jackson (2007) affirmed this notion, explaining that racial discrimination is problematic for African American students, negatively impacting their educational progress towards graduation. Researchers have identified the presence of discrimination through institutional racism, which is designed to negatively impact and systematically impede the progress of people of color, is entrenched in many public policies and institutions. Colleges and universities are no exception; the institutionally racist policies not only keep African American students from accessing higher education, but they subvert the academic



success of African American students who are enrolled, resulting in disproportionate levels of attrition amongst this population (Darling-Hammond, 2005).

Other factors found by researchers to negatively impact the educational progress of African Americans include faculty members having low expectations and negative perceptions of these students (Osburne, 2001). Tinto (2004) found that when students had a balance due to the educational institution after their financial aid and family contributions had been applied, they tended to enroll in classes part-time, live off-campus, and/or work an excessive number of hours at a job. These factors negatively impacted their persistence and progress toward graduation. Demetriou and Schmitz-Sciborski (2011) noted that minority and low-income students will tend to have greater retention if they receive financial aid in the form of grants rather than loans.

Gladwell (2000) reported important considerations for improving student retention of African Americans attending predominantly White academic institutions, each of which centered on enhancing the institutional experiences of African American students. These considerations included: (a) developing support programs designed specifically for African American students; (b) ensuring that all faculty and staff underwent diversity training, (c) increasing the numbers of African American staff and professors working at the university, (d) providing more interaction between faculty members and their students, (e) developing a program in which counselors would be trained to address the specific needs of African American students, and (f) allowing students to play a role in the development of the programs designed to meet their needs.

**Recommendations for increasing persistence among African American students.** In order to demonstrate a heightened level of commitment to the retention of African American students, Gruenwald (2003) recommended that academic institutions: (a) evaluate the ability of

the institution to work with this population of students, (b) examine the mission and philosophy of the institution, (c) allow the students to schedule visits to the institution early on in the college preparation process, (d) evaluate the readiness of incoming African American students, both academically and socially, (e) provide assistance to African American students to help them navigate and function within the organizational structure of the institution, (f) establish relationships with the students, (g) assist with preparing the students for effective functioning in the work world, (h) establish a mentoring program specifically for these students, and (i) help the students evaluate and explore their career options.

### **Latino Males & Collegiate Attainment**

**Latinos and education.** Latino immigrants comprise a large portion of the American population and are a significant part of the U.S. workforce. According to Luna and Martinez (2013), “many suggest that the country’s ability to be the global leader largely depends on the ability to educate and graduate Latino youth” (p. 2). Considering this, it should become a national priority to find strategic ways to ensure that members of this population set and attain educational goals and prepare for participation in the labor market so that they can become productive contributors to the nation’s economy (Teranishi, Suarez-Orozco, & Suarez-Orozco, 2011). The researchers also asserted that community colleges play an important role in helping Latinos achieve such outcomes because their institutional structures tend to be more compatible with the needs of many Latinos. For example, community colleges: (a) have lower tuition than four-year universities, (b) have open admissions policies that allow all students to enroll, (c) are often more conveniently located within traveling distance of neighborhoods where students live, and (d) are more accommodating of students who have economic and/or family responsibilities outside of the classroom (Teranishi et al., 2011).

Saenz and Ponjuan (2011) contribute to the argument for the need for greater attention on the educational attainment of Latino males by asserting that because the Latino community is such a strong and growing presence in the U.S. (the population increased 45 percent over the past decade and is now the largest group of ethnic minorities in the U.S.), it is incumbent upon both policymakers and educational institutions to assist this demographic group with educational attainment so that they can be contributors to the nation's economy. To not make such an investment in Latinos, particularly Latino males, would be problematic for not only the Latino community, but the nation. Saenz and Ponjuan (2011) explain, "missing this opportunity to provide economic and social advancement for this community will have a profound impact on the future of U.S. citizens and the nation's economy" (p. 3).

Saenz and Ponjuan (2011) also reported on the seriousness of the lack of educational attainment of Latino males, explaining:

The future of our nation's Latino male student population is in peril. Even as the total number of Latinas/os attending college and attaining degrees has increased steadily in recent decades, the proportional representation of Latino males continues to decline relative to their female peers. This growing gender gap is not unique to Latino male students, but it has largely gone unnoticed and under-examined by policymakers and education leaders. Such an unacknowledged crisis has untold implications for the future economic prosperity of our country and the well-being of our rapidly growing Latina/o communities (p. 4).

Because of low levels of educational attainment, although Latinos have traditionally participated at high levels in the U.S. workforce, they are often relegated to low-skill jobs or occupations that offer low pay, that are seasonal or unstable, that tend to be more dangerous, that

do not empower them for economic mobility, and that do not offer health insurance. Their low educational attainment, (Saenz & Ponjuan, 2011) combined with their language barriers, their lack of training, and other factors makes them less employable. The primary way to increase the stability, upward economic mobility, and to make them productive contributors to the national economy is to increase their educational attainment. This makes the role of community colleges all the more important (Saenz & Ponjuan, 2011).

While much research has been conducted on the success factors that contribute to the educational attainment of Latina females, little research has been conducted on Latino males (Saenz & Ponjuan, 2011). The research that does exist shows that the educational attainment gap that exists between Latino males and females does not begin in college; it begins in early childhood, persists throughout every grade level of primary and secondary school, and continues into college (Saenz & Ponjuan, 2011). Research notes that the same trend occurs between Black males and females, beginning in early childhood, justifying the need for further research into the cause of this phenomenon.

Although males of color tend to fare worse in educational attainment than other groups, some researchers deem African American males to have traditionally received greater amounts of attention and resources to boost levels of educational attainment than Latino males. Because of this, Saenz and Ponjuan (2011) assert that equal attention and additional efforts are necessary to boost the educational attainment of Latino males. They explained, “similar to the ongoing, well-established efforts to improve the educational outcomes of African-American/Black males in higher education, the nascent national movement on behalf of Latino males suggests that we consider promising regional and local initiatives that target Latinos (Saenz & Ponjuan, 2011, p. 12). Despite the clear crisis of a lack of Latino males in postsecondary institutions and the

growing gender gap that exists between Latino males and females, researchers have only recently begun to focus their research specifically on Latino male community college students (Saenz, Bukoski, Lu, & Rodriguez, 2013). These findings and recommendations justify the immediate need for investigating innovative ways in which colleges can increase the enrollment, persistence, and educational attainment of Latino males.

**College enrollment rates.** The high school dropout rate among the Latino community has decreased significantly. The rate was 32% in 2000 and dropped to 12% in 2014, although the dropout rate of this group remains higher than every other group, including Blacks (Pew Research, 2016). Researchers attribute the dramatic reduction in the rate of high school dropouts among Latinos to the increases that have been seen in college enrollment. In 1993, only 22% of Latinos ages 18 to 24 were enrolled in either a community college or a four-year college, but by 2014, this number rose to 35% of young adult Latinos being enrolled, or approximately 2.3 million students (Pew Research, 2016). However, although college enrollment rates are higher than they have ever been for Latinos, their rates are still significantly lower relative to the general population, particularly for Latino males.

Researchers have identified several factors that contribute to the lower levels of college enrollment among Latino students, including: (a) not having sufficient information about how to apply for or gain admission to college, (b) academic under-preparedness, (c) having parents with low level of education, and (d) being from low-income families (Saenz & Ponjuan, 2011). The rate of underrepresentation of Latino males is so low in postsecondary institutions that the U.S. Census Bureau reported that for every Latino male in a college dormitory, there are 27 Latino males in jail dormitories (Saenz & Ponjuan, 2011). Latino males are also the third largest

demographic of males that enlist in the military as an alternative to going to college (Saenz & Ponjuan, 2011).

The main challenge to becoming enrolled in college for Latinos remains to be economic factors. For example, “in a 2014 National Journal poll, 66% of Hispanics who got a job or entered the military directly after high school cited the need to help support their family as a reason for not enrolling in college, compared with 39% of whites) (Pew Research, 2016).

Another factor that researchers believe to contribute to lower rates of college enrollment among Latino males is the cultural value of ‘*familisimo*,’ which places a high priority on and attachment to one’s family, both immediate and extended (Saenz & Ponjuan, 2011). Operating out of a sense of *familisimo* includes a strong sense of responsibility to protect, care for, be loyal to, and provide for the family. In light of this, immediately after high school, Latino males tend to be more likely to get a job to financially provide for their family rather than go on to college to attain a degree (Saenz & Ponjuan, 2011). However, researchers have also studied the impact of *familisimo* on educational attainment and found that this strong sense of connectedness to family can help Latino students who choose to go to college to persist and attain favorable educational outcomes (Saenz & Ponjuan, 2011).

**Reasons for selection of community colleges.** According to Pew Research (2016), almost 50% of the Latino students who go to college enroll in two-year community colleges. This percentage of community college enrollees is significantly higher than any other ethnic group, including Whites (30%), Asians (32%), and Blacks (36%) (Pew Research, 2016). Both male and female Latinos are more likely to enroll in community colleges, outpacing their White counterparts’ enrollment two to one (Saenz et al., 2013). Saenz and colleagues (2013) reported that there are four primary reasons that Latina/o students primarily enroll in community colleges

rather than four-year universities. The first reason is because they tend to originate from families of a lower socioeconomic status and cannot afford the higher expenses of universities. Second, Latina/o students enroll in two-year institutions because community colleges offer greater flexibility to students who have other obligations outside of school (like work and family responsibilities) allowing students to attend classes part time and in the evenings. Third, community colleges have greater appeal to Latina/o students because they tend to offer certification programs and courses that equip students with skills and proficiencies that will allow them to immediately go to work, which is essential to Latinos, as they tend to value the prioritization of work. Finally, because more community colleges are working with four-year universities that allow students to transfer from two-year colleges into their institutions, the ability to complete core courses at a community college and then transfer to a four-year university offers greater affordability for students with limited financial resources (Saenz et al., 2013).

Another factor in Latina/o students' selection of community college is the preparedness factor: after completing high school, they discover that they are underprepared for college-level coursework. Boden (2011) investigated the perceived academic preparedness of first-generation Latino college students, who are typically considered underprepared for college-level work upon enrollment for college based on their placement test scores. The findings of the study revealed that although students perceived that they were prepared for college, their academic preparedness was low and showed that they were not prepared for college-level academics. Because of this lack of preparation and need for developmental education to boost their academic proficiencies, their most feasible choice is to attend community college.

Cultural factors, such as the centrality of family and strong bonds with family members, also play a role in Latina/o students choosing to attend community colleges, because these more accessible educational options allow students to continue to live at home or close to home while in school (Saenz et al., 2013). Another cultural factor involved in Latina/o students selecting to attend community colleges is that these schools tend to offer English as a Second Language courses, which are essential for college success, while four-year universities typically do not (Saenz et al., 2013).

**College completion.** Community college completion and attainment of credentials for Latinos has made notable increases over the past 20 years. According to Mullin (2011), the number of Latinos earning credentials from community colleges has increased 440% over the past 20 years (since 1991), and the number of Latinos enrolling in community colleges has increased by 226%. Also, over the past 20 years, the number of Latino students earning an associate's degree from community colleges has increased 383%, the number earning short-term certificates increased 1,338%, the number earning moderate-term certificates increased 302%, and the number earning long-term certificates from community colleges increased 80% (Mullin, 2011).

Unfortunately, even though more Latino students are attending college than ever before, this group still falls behind all other ethnic groups in their rates of graduating with a college degree from a four-year college or university. Pew Research reported that only 15% of Latinos ages 25 to 29 have a bachelor's degree or higher, a low percentage when compared to Asians (63%), Whites (41%), and Blacks (22%) (Pew Research, 2016). Also, Saenz and Ponjuan (2011) report that men of color, primarily Latino males, have significantly lower college enrollment and degree completion rates than their female counterparts, creating an educational crisis that must



be addressed. In 2010, females earned three out of every five degrees that Latinos earned in 2009, and this degree attainment gap between the two genders continues to grow.

Where Latino students choose to attend college also matters when examining their rates of completion. The Texas Higher Education Coordinating Board (2012) reported that Latina/o undergraduates are more likely to drop out of school when they attend two-year community colleges than when they attend four-year universities. Additionally, research indicates that fewer than 50% of Latinos who enroll in community colleges finish a degree or certificate. However, when they attend four-year universities, more than 60% of Latina/o students who begin at the university complete a bachelor's degree (Saenz et al., 2013).

Latino-serving institutions, which are able to meet the unique academic and cultural needs of Latino students, are one means of increasing college completion rates among Latino students. Nunez, Sparks, and Hernandez (2011) examined how Latino-serving institutions (HSIs) affect the enrollment and completion of Latinos attending community college. The researchers discovered that Latinos who attend Latino-serving institutions as opposed to community colleges that are not Latino-serving institutions exhibit a reduced risk for leaving college before they attain credentials. The study also reported on the profile of Latinos who tend to enroll in HSIs as being older, male, first-generation college students who also had elevated expectations about educational attainment and high grade point averages, suggesting that they were serious about school and serious about persisting towards the completion of school and graduation (Nunez et al., 2011).

**Persistence among Latino college students.** Researchers have discovered several factors that influence the persistence of Latina/o college students, including: (a) support received from immediate and extended members of their family and community, (b) receiving constant

cultural validation, and (c) having favorable experiences with mentors throughout their college career (Saenz & Ponjuan, 2011). Barnett (2011) conducted research on persistence among community college students and offered insights on how various factors affected the persistence of minority students, notably how validation affected their persistence. The study results showed that “higher levels of academic integration in the college predict a stronger intent to persist in college” (209) with Latino students demonstrating significantly higher persistence (defined by expressing their intention to re-enroll in the next semester) than their White counterparts. When examining how levels of faculty validation affected academic integration for students in the community college, the researcher found that the higher the levels of validation that the faculty members offered to the students, the stronger the students’ sense of academic integration would be. This was especially true for minority students (Latino, Black, and Asian) whose results were significant in comparison to White students. The research study also indicated that Latino and Black students were significantly more likely to persist in college when they received higher levels of validation from the college’s faculty members.

Saenz and colleagues (2013) examined the experiences of Latino males attending community college in an effort to determine how constructs of masculinity affected their college experiences and completion. Their findings showed how several factors affected the academic success of Latino male students. For example, the presence of *machismo*, or the Latino ideology of cultural masculinity associated with power, pride, aggression, competition, and control, was evident among the student subjects. Saenz et al. (2013) indicated, “the Latino males in this study reflected such characteristics and behavior, which was often displayed by their avoidance in asking for help, even in the face of impending failure” (p. 89). However, *machismo* also served a positive purpose, serving as a competitive force to drive the male students towards

accomplishing their academic goals, not allowing their Latina female counterparts' academic achievements to surpass their own. Additionally, Saenz and colleagues (2013) reported that Latino males expressed a fear of failure, despite the front of confidence that they maintained out of a sense of *machismo*. The researchers explained:

This fear revealed itself as anxiety; when faced with challenges, men were more likely to quit, opting to take pride in meeting familiar obligations than pride in persisting in school. These decisions demonstrate a fight or flight response; by choosing to drop out, males could run away from the source of their fear of failure – education – but simultaneously run towards a source of confidence and strength – a job (p. 90).

Another dominant theme that Saenz et al. (2013) reported was the Latino male students' pressure to achieve status. Again, out of their cultural values which equate manhood with employment and earning an income, the students were often “tempted by opportunities to make quick and easy money, especially for those with a family to support” (p. 91). Thus, they were challenged with enduring the process of achieving an education and earning a degree rather than leaving school and earning money, resources that would immediately increase their sense of self-worth and their self-perceived status.

Based on the findings of their research, Saenz et al. (2013) offer implications for increasing the educational attainment of Latino males. These suggestions include the following: (a) re-framing programs and services with men in mind (including the cultural values out of which sub-groups like Latino men tend to operate), (b) integrated career and academic pathways (that combine classroom learning with on-site job opportunities), and (c) messaging to Latino males and their families (to leverage the collective support that exists in these communities to

encourage their males to remain in school, overcome challenges, succeed academically, and graduate).

Luna and Martinez (2013) examined high-achieving Latina/o students attending college and how the students utilized their community's cultural wealth, which consisted of networks, skills, knowledge, and abilities, to persist and become academically successful. Findings showed that the educational goals and aspirations of the students were primarily shaped by their parents, who were able to offer encouragement and words of inspiration rather than financial, academic, or assistance with navigating college. Thus, not only did parental support drive the students towards enrollment in college, but their support also helped students to persist. Luna and Martinez (2013) assert that this type of parental support should not be undervalued because it does not include financial support or support with applications, navigating college, etc. Instead, their type of support should be considered assets that are necessary to help Latina/o students to persist, succeed, and complete their education.

Additionally, Luna and Martinez (2013) found that Latina/o students benefited from the community cultural relationships that they shared with other Latina/o students. The researchers reported, "social capital fostered trust, norms, and expectations among youth who came to share a common goal of academic success by doing homework together, sharing a computer, or belonging to a study group" (p. 14). Another key finding in Luna and Martinez's (2013) study was that although faculty members had low expectations of the academic abilities of their Latina/o students (which were often due to cultural differences that existed between the students and the faculty members), the students maintained high educational aspirations.

Based on the findings of their research, Luna and Martinez (2013) offered recommendations to increase student success and persistence, including the following: (a)

schools should establish and maintain high academic expectations and educate students about how to navigate college, (b) placing greater value on Latina/o parental involvement in whatever forms it is offered, (c) recognizing and respecting Latina/o students' native language and using it as a tool to increase comprehension, and (d) creating campus climates that are welcoming of Latina/o students so that the student feel that they belong.

According to Saenz and Ponjuan (2011), one factor that cannot be ignored when discussing persistence in college attainment among Latino males is that of paying for a college education. To address this issue, the researchers suggested greater transparency by colleges of the total costs that students must pay to attend the college, greater education for Latino families about the process of financial aid and its different forms, and realistic, accurate data on how much time it will take to earn a degree. Such information will allow the families of Latino males to make clear and informed decisions about college attendance and develop an action plan of how they will support the student through college until he or she can complete a degree or certificate (Saenz & Ponjuan, 2011). Tovar (2015) examined how additional factors affected persistence among Latino students, including Latina/o students' interactions with various on-campus supports, including advisors, counselors, faculty members, and support programs, affected the academic success and persistence of the students. Study findings showed that interacting with these college supports, both the individuals and support programs, had a significant impact on Latina/o students' success.

While most research on Latina/o college student persistence focuses on the external factors that affect their ability to remain in college like having employment, financial and family responsibilities outside of school, few focus on the unwelcoming college campuses marked by

racial hostility and how the challenges existing in such environments can affect Latina/o student college experiences and their willingness to persist (Luna & Martinez, 2013).

**Recommendations for increasing persistence among Latina/o students.** “Latino male college students are vanishing from postsecondary institutions” (Saenz, Bukoski, Lu, & Rodriguez, 2013, p. 82). Considering this, it is of critical necessity that community colleges could more effectively meet the needs of Latino students, specifically Latino immigrants, because “although there are many good ideas for interventions that can boost enrollment and improve the performance of immigrant students in community colleges, rigorous research on effective programs is scant” (Teranishi, Suarez-Orozco, & Suarez-Orozco, 2011, p. 153).

The findings of researched conducted by Teranishi and colleagues (2011) showed that there were various ways in which community colleges could attract, enroll, and retain Latino students, including the following: (a) offering outreach programs designed to make college appealing to young Latino immigrants and that would help them to complete college applications, (b) provide assistance to help the students apply for and receive financial aid, (c) allow funds received for financial aid to cover English as a Second Language courses that might be needed by some Latino students, and (d) offer additional funds and scholarships for undocumented students and documented Latino immigrants. By offering such interventions, community colleges can increase their effectiveness in attracting, retaining, and graduating Latino students (Teranishi et al., 2011).

Based on their research findings, Saenz and Ponjuan (2011) provided the plans for a program for what they consider to be a blueprint for Latino male success in education. The blueprint includes the following actions: (a) create awareness, (b) develop a support network, (c) develop a vision and mission statement or theory of change, (d) identify short- and long-term

measurable goals and objectives, (e) develop key benchmarks and track progress, (f) design research-based programmatic activities to meet the designated objectives, (g) garner resources, (h) create financial and nonfinancial sustainability, and (i) inform stakeholders (Saenz & Ponjuan, 2011). One of the recommendations that research experts on Latino males offer as a means of addressing the crisis of low collegiate attainment of these students is that of linking academics with such social developmental supports as learning communities (Saenz & Ponjuan, 2011). Additional supports might also include tutoring, instruction on study skills, and mentoring, counseling, or advising (Saenz & Ponjuan, 2011). Researchers also recommend that education institutions hire additional Latino American faculty and other men of color for teaching positions.

Saenz and Ponjuan (2011) also proposed five critical components that programs and policies designed to ensure the college readiness and success of Latino males should entail. These include the following:

- Emotional Support – Encourage caring and respect through mentoring, peer support, and individual counseling.
- Instrumental Support – Offer tangible interventions, such as workshops focused on financial literacy, study skills, and time management.
- Informational Support – Offer valuable information related to academic transitions, academic advising, and career choices.
- Appraisal Support – Offer ongoing feedback based on student progress.
- Structural Support – Provide formal and informal structures to improve the school's culture and climate (p. 14).

## **Male Students of Color & Developmental Education**

Many male students of color who enroll in college discover that they are underprepared for the demands of college coursework. This is often because many of these students are educated in public school systems and schools that are urban, predominantly minority, poorly structured, underfunded, and lacking the resources necessary to equip their students for college – resources that are abundant in the school systems and schools that their White and Asian peers attend and that equip them to graduate adequately prepared for the demands college coursework (Condrón & Roscigno, 2003; Jackson, 2007). Of all demographic groups, students of color graduating from high school were less likely than any other group to meet College Readiness Benchmarks; only 4% of African Americans met all four benchmarks. Further, roughly 50% of African American and Latino students did not meet any of the four College Readiness Benchmarks after graduating from high school (ACT, 2012).

Researchers have uncovered several problems that have historically contributed to the graduation of students of color underprepared for college coursework, including having teachers who are unqualified to teach subject areas, school facilities that are inadequate for the proper education and development of students, the use of educational materials that are outdated, a shortfall of academic resources to serve students such that there are not enough to distribute to all students who need them, low rates of students passing Advanced Placement exams, and the use of college preparatory curricula that are weak and ineffective (Kozol, 2005). Davis and Palmer (2010) summarized the shortcomings of the educational systems in which many minorities are educated, which do not equip them with the basic academic skills that they will need to realize in academic success:



...academic under-preparedness among African American students originates early in their school experience, and is often the consequence of poorly funded schools and ineffective school officials. In other words, many African American students are adversely affected by the conditions under which they learn and develop as children in elementary and secondary schools, especially those from low-income, urban school districts. These conditions include insufficient materials, unqualified teachers, poor facilities, low expectations, weak college preparatory curricula, stereotype threat, and systemic racism (p. 512).

Many students of color graduate from high school in need of post-secondary remedial education because they have a greater tendency to be enrolled in school systems that do not sufficiently prepare them with the basic skills necessary to manage college coursework (Davis & Palmer, 2010). According to Davis and Palmer (2010), underrepresented minority students require remedial education at a disproportionately higher rate than other students in order to gain access to four-year colleges and universities. Attewell, Lavin, Domina, and Levey (2006) reported that students of color consistently lag behind their White and Asian peers in the subject areas of science, reading, and math, which are critical for being adequately prepared to take college-level coursework. This has resulted in an achievement gap that persists between students of color and their White and Asian peers. Kreysa (2006) reported that while minorities in general had a positive correlation with enrollment in remedial courses, the correlation was even stronger among students of color and enrollment in remedial courses. Further, this gap persists when the analysis controlled for socioeconomic status, indicating that whether they attend schools in richer communities or poorer communities, minority students continue to lag behind their White and Asian counterparts in each of these key academic subjects.

Considering that many states and systems of higher education are significantly downsizing their developmental education programs or eliminating them altogether in their four-year colleges and universities because of their high cost, the ability to access postsecondary remedial programs in community colleges has become more critical than ever to the ability of minority students to obtain a college education (Davis & Palmer, 2010), as they are often underprepared for college coursework and rely on postsecondary remedial education to succeed in college (Attewell et al., 2006). Parker (2007) reported that approximately 22 higher education systems (or the states that govern them) have already ceased to offer or drastically reduced developmental education to underprepared students. Developmental education is a critical tool for the success of minority college students. According to CCCSE (2014), men of color were enrolled in developmental education programs at twice the rate of White students. The inability to access postsecondary remediation programs designed to boost the capacity of underprepared students to take college coursework and succeed in school would introduce a significant hindrance to college attainment in the minority community in ways that their absence would not significantly impact non-minority communities (Davis & Palmer, 2010). Thus, as there has been a steady increase in students of color attending college over past decades, the need for colleges to provide post-secondary remediation that is effective in developing the basic academic skills of these students has also increased (Merisotis & Phipps, 2000).

### **Developmental Education in Community Colleges**

Each year, a large percentage of students entering community college do so academically underprepared to take college-level courses (Bailey, 2009). Bound and colleagues (2010) offered a potential explanation for this trend: the composition of the type of students attending college is because many people are now recognizing the higher lifetime returns they can receive with a

college degree. As a result of the increased demand for college degrees, colleges are enrolling academically underprepared students at unprecedented levels. However, as these students attempt to matriculate through the higher education system, because they have weaker academic skills, they stand a greater likelihood for dropping out of school and not completing college and graduating (Bound et al., 2010). Further, because community colleges are less selective and more likely to admit academically underprepared students, these institutions have suffered the greatest declines in student rates of college completion. Thus, these types of school are faced with the greatest challenges of reducing attrition (Bound et al., 2010).

Most commonly, academic institutions use versions of the Accuplacer and Compass tests to assess the academic preparedness of students entering community college, although other assessments exist. Both the Accuplacer and Compass tests assess students' skills and knowledge in the subject areas of reading, writing, and math in order to identify a student's strengths and developmental needs in each respective area. However, no standard skills assessment exam is used in the United States to determine whether students are in need of developmental education (Bailey, 2009). It is important to note that "developmental education assessments are not designed to predict future college outcomes, but rather to determine the appropriate course into which students should be placed" (Bailey, 2009, p. 24).

College students whose fundamental skills are not deemed to be strong enough to succeed in college-level coursework are typically prescribed a sequence of developmental courses that must be completed prior to being permitted to enroll in college-level courses. Attewell and colleagues (2006) examined data from the National Education Longitudinal Study between 1988 and 2000 and found that, among college students of traditional age: (a) 58% of students attending community college took at least one developmental course, (b) 44% of

students took between one and three developmental courses, and (c) 14% of students took more than three developmental courses. Other research has produced similar findings. For example, Bailey (2009) utilized community college data from a national database (Achieving the Dream: Community Colleges Count) comprised of reports from 83 community colleges across 15 states in the U.S. to track three years of data on more than 250,000 first-time students. Study results revealed that 59% of students in the database were enrolled in at least one remedial or developmental education course (Attewell et al., 2006). Students can be faced with taking several semesters of developmental coursework before moving on to enroll in college-level coursework. Bailey (2009) explained:

Students are often referred to a sequence of developmental courses comprising two, three, or even more levels below the entry-level college course in a given area. Thus, some students are judged to need three or more semesters of course work before being prepared to learn college material (p. 14).

Bailey's (2009) research revealed additional insights about student participation in developmental education, including: (a) about one-fifth of the students referred to take developmental math did not enroll within the three years tracked by the study and only 31% of these students actually complete their developmental courses in math; and (b) about one-third of the students referred to take developmental reading did not enroll within the three years tracked by the study, and only 44% of these students actually complete all of their developmental courses in reading. Further adding to the challenge of using developmental education as a means of preparing students to succeed in college is the fact that while some community colleges recommend that students who score low on assessment tests and have weak academic skills take remedial courses before attempting college-level coursework, they do not require them to do so

before enrolling in college courses (Bailey, 2009). Attewell and colleagues (2006) found that nearly 21% of students that community colleges referred to take developmental math did not enroll in the math classes within three years of initial college enrollment and 33% of students referred to take developmental reading did not enroll within three years of initial college enrollment.

Developmental education is a field of practice that “involves colleges and universities admitting students who they believe have the ability to complete a degree with some developmental assistance” (Davis & Palmer, 2010, p. 505). The concept of developmental education originated in the mid- to late-1800’s as remedial programs and were commonly referred to as “college preparatory” programs, with the first formal program of this nature offered at Wellesley College in the late 1800’s (Kreysa, 2006). Today, while the purpose of the programs remains the same, the term “developmental education” is now used interchangeably with the terms “postsecondary remediation” or “remedial education” (Attewell et al., 2006) and “learning assistance” (Kreysa, 2006, p. 253). The purpose of developmental education is to boost the academic deficiencies of students who enroll in college underprepared with the basic skills necessary to navigate college-level coursework (Attewell et al., 2006). Kreysa (2006) described a more specific purpose for developmental programs at community colleges: “the purpose of these programs is to help students from deprived – often economically or socially disadvantaged – backgrounds to ‘catch up’ academically with their peers” (p. 252). Developmental education programs vary by state and institution but typically range from offering remedial courses in key subject areas and academic support to offering comprehensive support services to meet students’ academic and social needs, tutoring, counseling, and success seminars (Attewell et al., 2006).

Most developmental education offers remedial courses in the key subject areas of writing, reading, and math (Orange & Ramalho, 2013).

According to McCabe (2003), any developmental education program should be defined by two primary goals: “(a) to ensure that every student is prepared for the academic rigors of progressive courses in a particular content sequence; and (b) to ensure that students are not allowed to enroll in a course in the sequence until they are prepared to be successful in that course” (pp. 82-83).

The business of preparing students in need of remediation for taking college coursework can be of significant cost to community colleges around the nation. Breneman and Harlow (1998) found that the financial cost that colleges invest in providing developmental services is in excess of \$1 billion annually. A decade later, research conducted by Strong American Schools (2008) reported that this annual cost of providing developmental education at community colleges had risen to between \$1.9 and 2.3 billion. The expense that colleges incur in providing remedial education for underprepared students is of great concern to institutional leaders and policymakers, leading them to question the efficacy of providing developmental programs at their institutions and prompting them to find creative ways of balancing the cost of maintaining the academic quality of the institution with the cost of focusing on equity for all students, including those underprepared for college coursework and in need of remediation (Davis & Palmer, 2010).

The question still remains among researchers about whether developmental education actually affects the retention and graduation rate of developmental education students when compared to non-developmental students. Most researchers examining postsecondary remedial education indicate that remedial programs positively increase the likelihood that students will

persist in college and progress toward graduation (Davis & Palmer, 2010). Of students who do enroll in developmental education, research shows that they tend to complete their coursework at varying rates depending on the subject area. According to Attewell et al. (2006), among students enrolled in developmental courses, only 30% pass all of their math developmental classes in which they were enrolled. This result is in contrast to other courses in which students experience greater success. For example, 71% of students pass developmental reading while 68% pass the developmental writing courses in which they are enrolled (Attewell et al., 2006). Additionally, Kreysa (2006) found that there was no difference between the levels of graduation and retention rates between the two groups. This finding suggests that participating in developmental education can help students to catch up with their peers to the extent that those who enter college academically underprepared persist at a rate similar to students who enter college prepared to navigate the demands of college-level coursework (Kreysa, 2006).

Despite these results, Bailey (2009) painted a bleak picture of developmental education in U.S. community college, highlighting the fact that many students who are recommended to take a sequence of developmental education courses never enroll in them, and among those who do enroll in one course, many of these students do not return to take the next course in the sequence. Further, among those students who do complete their recommended developmental education course sequence, many of these do not go on to enroll in the college-level courses for which they were being prepared in their developmental courses. Thus, the data surrounding persisting throughout developmental education (and even after the completion of developmental education courses) is discouraging (Bailey, 2009).

It is a widespread belief among researchers that the developmental education process for community college students is in need of at the very least, improvement, and at the most, reform.

In fact, several states, notably California, Kentucky, Tennessee, and Texas, are ahead of the curve in attempting to develop innovative, comprehensive initiatives to improve their developmental education programs (Bailey, 2009). Various researchers have contributed to the dialogue of what types of reforms are necessary to improve the effectiveness of developmental education, increase retention, and bolster graduation rates among underprepared students. For example, Bailey (2009) suggested that developmental education be reformed according to an agenda that is comprised of several items, including: (a) a more thorough and comprehensive method of assessing students' academic proficiencies, (b) additional research that focuses on examining how underprepared students navigate their early years on the community college campus, (c) not making such a clear and noticeable differentiation between developmental students and those who are sufficiently prepared for college-level coursework when designing coursework, and (d) developing methods of streamlining developmental course sequences so that students can begin enrolling in college-level coursework sooner, reducing their time towards graduation.

Barbatis (2010) recommended using competency-based course curriculum so that students can have a series of small wins – incremental successes – so they can accelerate through the developmental education portion of their college career and move on to taking college courses. Further, Barbatis (2010) suggested:

If skills learned in the developmental courses (i.e., reading) can be applied in related college-level courses... and students can earn college-level credits simultaneously, they are more apt to discover interdisciplinary application and make progress in earning credits toward their degree. Developmental courses should not be taught in isolation but



rather in ways that allow students to see the connected relationships among disciplines (p. 21).

As one approach towards the reform of remediation programs, Brock (2010) recommended that colleges accelerate the speed at which underprepared community college students could complete their developmental coursework and move on to college-level courses. Brock (2010) offered several options that colleges could consider in order to achieve this acceleration, including: (a) allowing students whose assessment scores fall slightly below what is required for college-level coursework to take a short review class instead of requiring a semester-long course in the subject area; (b) setting up short-term immersion courses that require students to spend a greater amount of time in class each week, but which allow them to learn the material in a shorter amount of time; (c) offering short term and accelerated immersion courses at non-traditional times like between semesters and during breaks; and (d) allowing incoming students to undergo intensive remediation prior to taking assessments that measure their basic skills so that they can avoid having to take developmental classes altogether.

Offering further suggestions for the reform of developmental education, Fowler and Boylan (2010) suggested that colleges steer developmental educators towards addressing more than academics; they would serve students better and increase retention by focusing on the personal and non-academic factors that have a strong bearing on students' academic performance and persistence. These issues might include financial issues, employment issues, transportation issues, family and childcare issues, or even a student's personal medical issues, all of which have the ability to negatively impact the students' academic progress and persistence towards graduation. This is especially true considering that such non-academic factors are of greater importance and have a greater impact on developmental skills are already weak (Fowler &

Boylan, 2010). Without addressing these key non-academic issues in a developmental education student's life, the offering of developmental education itself is unlikely to result in desirable academic outcomes for the student (Fowler & Boylan, 2010).

### **Persistence among Community College Students**

Student persistence is measured based on a student's completion of a college degree or certificate and on a student's continual enrollment in college (Brock, 2010). There are marked differences between the rates of persistence between students who begin their college studies at community colleges versus those who begin their college studies at a four-year university or college. The persistence rate of those who began at four-year universities or colleges is 80% while the persistence rate of those who began at community colleges was 52%. The type of educational institution that a student attends also affects persistence rates; those who attend both private four-year universities and colleges and private community colleges have higher persistence rates than those who attend public four-year and two-year institutions (Brock, 2010).

Students engaged in the developmental education process at community colleges can persist towards graduation. According to Fike and Fike (2008), completing a developmental course is a key predictor of retention and persistence, particularly the completion of a remedial reading course. However, the level of development a student requires upon entering community college affects the likelihood of persistence and progression towards graduation. Bailey (2009) reports that when students start three developmental levels below what is required to take college courses, only 16% of math students complete their full sequence of developmental math courses and 22% of reading students complete their full developmental sequence in reading in three years. Further, approximately 25% of all students who are referred to take remedial courses that

are three levels below what is required to take college courses in both math and reading will drop out of school between courses.

Ultimately, the research indicates that when students enter community college requiring the completion of developmental courses, the likelihood that they will persist and progress towards graduation is rare, although not impossible. Bailey's (2009) research results indicated the following about students who enrolled in a developmental education course in their community college: less than 33% of students who enrolled completed a certificate or a degree within eight years of their enrollment, and of the students who enrolled, 14% of the students transferred to a four-year college before they completed a certificate or degree at the community college. Bailey (2009) contrasted these results with the statistics surrounding students who are not referred to enrollment in developmental education. Of these students, nearly 40% completed a degree within eight years of their enrollment, and 14% of these students transferred before they completed a certificate or degree at the community college.

### **Statement of the Problem of Practice**

Lone Star College, a publicly-funded, two-year community college system serving the northern and northwestern portions of the greater Houston, Texas area is experiencing high attrition among its developmental education student population. The attrition rate is especially high among the college system's African American and Latino developmental education male populations, two groups that have consistently had the highest attrition rate of any other groups on Lone Star College's multiple campuses (Lone Star College, 2016). Researchers have indicated that accelerating the rate at which developmental students are able to complete their developmental education coursework fosters greater levels of persistence in the students, which in turn can reduce attrition (Barbatis, 2010; Brock, 2010; Hodara & Jaggars, 2014). It is also

documented in research that paired coursework programs can be an effective means of acceleration (Bailey, 2009). However, it was not known how effective the paired coursework model of acceleration could be in fostering persistence and progress towards graduation of the school system's African American and Latino male developmental education students.

### **Advancing Scientific Knowledge**

In this research study, the researcher examined the persistence exhibited by African American and Latino male developmental education students who participated in accelerated paired course programs as compared to the persistence exhibited by the same demographic of students who enrolled in standalone, non-accelerated courses. Although developmental education is a standard offering at most U.S. community colleges because so many of their students enroll academically underprepared for college-level coursework, developmental education has fallen under great scrutiny, and there are many experts who have called for a reform of the traditional model with new models, such as developmental education course acceleration. This is especially relevant in conversations about African American and Latino male college students, who have significantly higher rates of attrition when compared to their non-racial and ethnic minority counterparts. While some literature exists about the benefits of acceleration programs on student persistence in general, there is limited research about how accelerated paired course programs specifically affect the persistence of African American and Latino developmental education students on community college campuses.

The theoretical framework underlying this research study was comprised of two theories: Tinto's model of student integration (Tinto, 1975), which focuses on how social integration factors play a major role in helping students to persist towards graduation, and Eccles and Wigfield's (2000) expectancy-value theory which emphasizes how certain factors play a role in a

student's belief that he or she can complete educational tasks (i.e., completing developmental education courses, persisting, and progressing towards graduation). Although there are numerous studies that have been grounded in Tinto's model of student integration and that have utilized expectancy-value theory to attempt to address student persistence, little to no research has been conducted to examine how the model of student integration affects expectancy-value beliefs of students, particularly African American and Latino male students on community college campuses. With this research study, the researcher attempted to make a valuable contribution to the body of literature on student persistence by investigating how the acceleration of developmental education coursework can affect student persistence by increasing their expectancy and values that they can remain in school, progress towards graduation, and completes their degree.

### **Significance of the Study**

This research study is significant for two primary reasons. First, it is significant because it addressed a gap in the literature by focusing on the direct impact of accelerated paired-course programs on the persistence of African American and Latino male developmental education students. Second, it is significant because it was conducted in response to calls for the quantitative, systematic evaluation of developmental education programs and how they affect the persistence of students of color.

The results that have been produced by traditional developmental education programs have been ineffective, at best (Bailey, 2009). Aware of this shortcoming in their programs, many community colleges are attempting to modify how they offer remediation to their students in need of such development, beginning their change efforts with a focus on empirically measuring how these students fare in their developmental coursework and how their levels of academic

attainment in these courses is related to their persistence and progress towards graduation. As Bailey (2009) explained, “there is now a growing commitment to better evaluation and quantitative analysis of student progression in community colleges that promises a more systematic and informed process of program and policy development” (p. 12). More than ever before, community colleges are engaging in research that is driven by student statistics and that is designed to closely track and monitor how their underprepared students are navigating their developmental education sequences. The goal of such research is to provide insights that will help community colleges develop more effective paired coursework acceleration programs for African American and Latino male developmental education students – programs that will actually result in helping this population of students to persist and graduate from their institutions.

Although several programs and reforms have been implemented over the years by community colleges, the evaluation of their abilities to cause students to persist and complete college remains deficient (Brock, 2010). Burns (2010) noted, “systematic evaluation of developmental education at community colleges is woefully lacking, despite indications of low effectiveness increase the urgency” (p. 41). Parker (2007) recommended that more research is necessary to understand if and how developmental education can effectively impact the outcomes of *diverse* students at two-year community colleges and four-year universities. Hodara and Jaggars (2014) recommended engaging in empirical research about how accelerating the progress of developmental education community college students affects the students’ outcomes.

In response to Bailey’s (2009) and Burns’ (2010) calls for the systematic evaluation and quantitative analysis of the effectiveness of developmental education programs, Parker’s (2007) recommendation that more research be conducted to determine how developmental education

can be used to more effectively serve students of color. In addition, Hodara and Jaggars' (2014) call for more empirical research to be conducted on how acceleration of developmental students' coursework affects their progression. This study is also significant because it is built upon the work of previous researchers who have deemed further investigation into the evaluation of how developmental education programs and their impact on students of color.

### **Summary and Organization of the Remainder of the Study**

The trend of high attrition among developmental education students persists despite the comprehensive sequences of developmental courses that community colleges offer to build students' proficiencies in subject areas necessary to prepare them to take college level courses and ultimately succeed in college (Bailey, 2009). While some research studies show that developmental education, or postsecondary remediation, can have some impact on the likelihood of student success, persistence, and progress towards graduation, the results are mixed, and most developmental education students still do not complete college (Davis & Palmer, 2010). This is an especially relevant topic of discussion when discussing the persistence and progression of African American and Latino male developmental education students towards graduation, who tend to have the worst rates of college completion in comparison to Whites, Asians, and other ethnic groups (Parker, 2007). The low college completion rate of students who are referred to developmental education exists, in part, due to the finding that the landscape of traditional developmental education is grim and is consequently in need of significant reforms that will improve its helpfulness in not only preparing students for higher levels of study, but helping them to persist in remaining in school (Bailey, 2009). To bring about this type of reform, developmental education course sequences must be reduced and accelerated, allowing students to fulfill the requirements of the courses in a shorter amount of time while building the skills they

need to succeed in college-level coursework (Hern, 2012). Various accelerated paired-course programs exist throughout the LSC system, and developmental students voluntarily enroll in them. However, it was not known how effective the paired coursework model of acceleration could be in fostering persistence and progress towards graduation of the school system's African American and Latino male developmental education students. The purpose of this quantitative causal-comparative research study was to investigate how participation in an accelerated paired-course program could influence the persistence of African American and Latino male developmental education students to progress towards graduation.

The remainder of the study will be organized as follows. Chapter Two will provide a needs assessment in the form of an empirical examination of factors underlying the persistence of developmental education students, including a context of study, details about the methods used, and findings of the assessment. The outcomes of the needs assessment will provide evidence justifying the need for the current research study. Chapter Three will consist of a literature review of literature relevant to the intervention, including the theoretical framework that provides the foundation for the intervention and a synthesis of current research that the researcher will use to argue for the proposed intervention. Chapter Four will present the intervention procedure and program evaluation methodology, including the research design, how the process and outcomes will be evaluated, and detailed descriptions of the intervention, data collection, and data analysis. Finally, Chapter Five will introduce the study results, including the process of implementation, the outcomes of the implementation, the conclusions drawn from the outcomes, and a discussion about how the results relate to the literature, the theoretical framework, and practice.



## **Chapter 2: Empirical Examination of Factors Underlying Persistence of Developmental Education Students**

Developmental education programs are a field of practice that community colleges use to assist underprepared students who possess weak academic skills. Developmental students are a diverse group and bring with them varied background experiences and attitudes. The role of community colleges is to teach students college-level material, but the majority of students arrive unprepared to effectively engage and succeed in college-level work. Therefore, they enroll in remedial courses in the areas of reading, writing or math to advance their academic skills. Research shows “students who enroll in remediation are less likely to complete degrees” (Bailey, 2009, p. 15). In addition, a report from the American Association of State Colleges and Universities notes that “students who complete their developmental education requirements are four times more likely to graduate from college than those who do not” (Boylan & Saxton, 2009, p. 3). According to Holmquist, Gable, and Billups (2013), persistence in remediation as preparation for higher education continues at less than 50%. Further, Boylan and colleagues (2009) noted that attrition rates are high in developmental sequences in community colleges. “As students fall away at each level, the pool of continuing students gets smaller and smaller until only a fraction of the original group remains to complete the sequence” (p. 3).

Researchers have identified psychosocial variables that influence the persistence of college students, including self-regulation, social connectedness, and self-efficacy. Each of these factors is considered to play a key role in the motivation of college students to persist toward graduation. For example, according to Savi (2011), “students who have higher levels of cognitive abilities, self-efficacy and self-regulation persist, even though they may not feel integrated into the institution academically” (p. iii). In a study of persistence among students at an urban

community college, Liao (2014) found that self-regulated learning efficacy was a predictor of student persistence. Concannon, Serota, Fitzpatrick, and Brown (2018) studied how qualities like self-regulation and self-efficacy impacted undergraduate persistence, and their findings indicated that self-regulation was a fundamental factor in predicting persistence, while their abilities to self-regulate affected their self-efficacy beliefs. Also, according to Tinto (1993), social connectedness, which is a product of social integration and based on the quality of the interactions students have with the social system at their college, has also been shown to influence persistence. Jdaitawi (2015) examined how various factors affected college students' self-regulation, which is necessary to persist and succeed in college, and found that there was a significant relationship between self-efficacy, social connectedness, and self-control on self-regulation. Overall, researchers generally agree that self-regulation, social connectedness, and self-efficacy influence the persistence of college students.

Lone Star College – Montgomery (LSC-M), a branch of the publicly-funded, two-year community college system serving the northern portions of the greater Houston, Texas area, is experiencing high attrition rates among its developmental student population. Developmental students are not completing the necessary developmental courses at the community college level. By not completing required courses and enrolling for the next course in their required developmental sequence, they do not persist and progress towards graduation, and this causes the rate of attrition among this population to continue to rise at the institution. Therefore, there is a need to reduce attrition and increase the persistence of developmental education students at the college. In this needs assessment, the researcher examined the relationship between three psychosocial factors that have been shown to influence student persistence and several demographic variables of LSC-M developmental education students to better understand the

factors underlying persistence of their developmental education students.

### **Goals and Objectives**

The goal of this needs assessment was to examine the relationship between several demographic factors of developmental education students at LSC-M and their levels of self-regulation, social connectedness and self-efficacy, which have been shown to influence persistence among community college students.

The needs assessment was guided by the following research questions:

RQ1: What is the relationship between the gender of freshman developmental education students and levels of self-regulation, social connectedness, and self-efficacy?

RQ2: What is the relationship between the marital status of freshman developmental education students and levels of self-regulation, social connectedness, and self-efficacy?

RQ3: What is the relationship between the age of freshman developmental education students and levels of self-regulation, social connectedness, and self-efficacy?

RQ4: What is the relationship between the ethnicity of freshman developmental education students and levels of self-regulation, social connectedness, and self-efficacy?

### **Methodology**

The researcher used a quantitative approach to conduct the needs assessment in order to determine the underlying causes and factors associated with developmental education students' decision to persist at Lone Star College – Montgomery.

### **Context**

Lone Star College – Montgomery, has more than 78,000 students in credit classes, and a total enrollment of more than 90,000. Lone Star College is the largest and the fastest growing

institution in the Houston area. The campus (LSC-M) serves approximately 13,000 students, it operates on a semester system, and offers May and winter mini-mester sessions.

## Participants

Study participants included 100 developmental education students, predominantly freshmen, at Lone Star College – Montgomery. Students were approached with an invitation to participate in the research study by their professors, whom the researcher recruited with the request for the professors to administer the data collection instruments in their respective classes. LSC-M offers two developmental English courses: (1) ENGL 0302, Integrated Reading and Writing I, the lowest level course, and (2) ENGL 0309, Integrated Reading and Writing II, the highest-level course. During the 2014-2015 academic year, the Developmental Education department serviced approximately 491 students during the fall semester, 350 students during the spring semester, and 118 students during the summer semesters. The frequency distribution of students is shown in Table 1. See Appendix B for additional descriptive statistics.

Table 1

### *Frequency Distribution of Students*

<u>Ethnicity</u>	<u>N</u>	<u>%</u>
Latino/Latino	40	40.0%
Asian/Pacific Islander	9	9.0%
White/Caucasians	30	30.0%
Black/African American	18	18.0%
Other	3	3.0%
Total	100	100%

## Instrumentation

The researcher utilized a pencil-and-paper data collection tool consisting of demographic questions followed by three surveys consisting of seven questions each: (a) a self-efficacy

survey, (b) a self-regulation survey, and (c) a social connectedness survey. The surveys were obtained from peer-reviewed, published research studies. The data collection tool was used to collect data about participants' self-efficacy, self-regulation, and social connectedness, each one a construct that researchers have indicated as having the ability to affect student retention. Each of the three surveys was preceded by an introductory paragraph that informed sample respondents of the purpose of the research study followed a description of the construct that was being studied in that particular survey. For example, on the social connectedness survey, the construct description read, "social connectedness is defined as an aspect of the self that manifests the subjective recognition of being in close relationship with the social world. It directs student's feelings, thoughts, and behaviors in social situations." This description was followed by seven questions designed to evaluate students' scores on the construct. This was repeated for the self-efficacy and self-regulation surveys.

Participants responded to the following seven questions on the self-regulation survey developed based on questions extracted from the "Learning Strategies" section of the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, Smith, Garcia, & McKeachie, 1991, pp. 44-48). The self-regulation survey used a five-point Likert scale ranging from one (Strongly Disagree) to five (Strongly Agree). After reading and considering the question, participants indicated their response by circling the most appropriate number on the scale.

1. During class time, I often miss important points because I'm thinking of other things.
2. When reading for this course, I make up questions to help focus my reading.
3. When I become confused about something I'm reading for this class, I go back and try to figure it out.
4. Before I study new course material thoroughly, I often skim it to see how it is organized.

5. When I study for this class, I set goals for myself in order to direct my activities in each study period.
6. I often find that I have been reading for class but don't know what it was all about.
7. If I get confused taking notes in class, I make sure I sort it out afterwards.

Participants responded to the following seven questions on the self-efficacy survey developed based on questions extracted from the “Academic-related Perceptions, Beliefs, & Strategies” section of the Patterns of Adaptive Learning Scale (PALS) (Midgley, et al., 2000, p. 20). The survey used a five-point Likert scale ranging from one (Strongly Disagree) to five (Strongly Agree). After reading and considering the question, participants indicated their response by circling the most appropriate number on the scale.

1. I'm certain I can master the skills taught in class this year.
2. I'm certain I can figure out how to do the most difficult class work.
3. I can do almost all the work in class if I don't give up.
4. Even if the work is hard, I can learn it.
5. I can do even the hardest work in this class if I try.
6. It is easy for me to stick to my aims and accomplish my goals.
7. When I am confronted with a problem, I can usually find several solutions.

Participants responded to the following seven questions on the social connectedness survey developed based on questions extracted from the social connectedness Scale (SCS) (Lee, Draper, & Lee, 2001) using a five-point Likert scale ranging from one (Strongly Disagree) to five (Strongly Agree). After reading and considering the question, participants indicated their response by circling the most appropriate number on the scale.

1. I feel part of a group of students committed to learning.

2. I am able to relate to my peers.
3. I am able to connect with other people.
4. I don't feel I participate with anyone or any group.
5. I catch myself losing a sense of connectedness with the college community.
6. I have little sense of togetherness with my peers.
7. I don't feel I participate with anyone or any group.

### **Data Collection**

The researcher obtained consent from seven instructors to administer the data collection tool to their respective developmental education students. The researcher visited the class of each consenting instructor on a designated day and time and was introduced as a researcher by the instructor. The researcher then explained the purpose of the research study and disseminated consent forms to the students in the class to read and sign as a prerequisite for participating in the research study. Upon collecting consent forms from each of the developmental students, the researcher distributed the pencil-and-paper surveys. When students completed their surveys, they returned them to the researcher. The total time for data collection in each class did not exceed 20 minutes. The researcher also collected data from developmental students in her own class following the same process. Data was collected from a total of 100 developmental students.

### **Data Analysis**

After the researcher collected all completed surveys, respondents' answers were entered into an Excel spreadsheet, which served as the primary data collection record and allowed for ease of statistical analysis. SPSS was used to analyze data collected from each of the pencil-and-paper surveys with a one-way analysis of variance test (ANOVA). The researcher proceeded to

convert these files to STATA data sets, renamed the variables, cleaned the data, and conducted a preliminary analysis, which included basic descriptive statistics.

## **Variables**

Four independent variables were in the analysis for the needs assessment study: (a) gender, (b) marital status, (c) age group, and (d) ethnicity. Three dependent variables were used in the analysis for the needs assessment study: Self-Regulation Scale score, Social Connectedness Scale score, and Self-Efficacy Scale scores.

**Self-regulation.** Self-regulation is the ability to develop, implement, and flexibly maintain planned behavior in order to achieve one's goals. Self-regulation is defined as the effort put forth by students to deepen, monitor, manipulate, and improve their own learning (Boylan, 1999; Pintrich, 2000). Boylan (2002) suggested that many students “not only fail to understand when they do not comprehend material, they do not know what to do differently to facilitate understanding” (p. 100). Comprehension monitoring is especially valuable for adult, developmental students, who are more likely than other students to lack self-regulation (Boylan, 1999). Dinsmore, Alexander and Loughlin (2008) defined self-regulation as “reciprocal determinism of the environment on the person, mediated through behavior” (p. 393). Therefore, it is essential to engage students’ self-regulatory behaviors by encouraging them to reflect on their thinking, set goals, plan for learning, monitor their progress, and adjust thinking as needed (Pintrich, 2000; Zimmerman, 1990).

**Social Connectedness.** Social connectedness can be defined the way in which one views oneself in relation to the external world (Lee & Robbins, 2000 cited in Williams & Galliher, 2006). It considers all aspects of social interaction including family, friends, and the community; and refers to one's relationship with "others" in general. Consistent and positive interactions are



also part of what makes up one's sense of social connectedness. Another construct suggests that interpersonal relationships are directly linked to persistence, the development of educational aspirations, completion of a bachelor's degree, and subsequent enrollment in graduate school among college students overall (Dukakis, Duong, Ruiz de Velasco, & Henderson, 2014). In addition, DaDeppo (2009) proposed "students' experiences at college, primarily the extent to which they become socially and academically integrated, have a direct impact on their institutional and goal commitment and thus retention" (p. 123).

**Self-efficacy.** Self-efficacy refers to an individual's belief in his or her capacity to execute behaviors necessary to produce specific performance attainments (Bandura, 1986). Self-efficacy reflects confidence in the ability to exert control over one's own motivation, behavior, and social environment. When individuals have a stronger sense of self-efficacy, they tend to take greater control over their learning behavior (Bransford, Brown, & Cocking, 2000). Developmental students "must learn to recognize when they understand and when they need more information" (Bransford et al., 2000, p. 12). In addition, Bean and Eaton's (2000) psychological model of college student retention posits "that as academic social self-efficacy increases, academic and social integration into university life will also increase leading to student persistence" (Demetriou & Schmitz-Sciborski, 2011, p. 307).

### **Needs Assessment Results**

This section provides a basic summary of some key results of the Needs Assessment. The subsequent results represent a first attempt to use the collected data to provide an evidence-based description of the extent of the problem, as it exists at LSC-M.

**RQ1. What is the relationship between the gender of freshman developmental education students and levels of self-regulation, social connectedness, and self-efficacy?**

Table 2

*One-Way Analysis of Variance of Self-regulation by Gender*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	1	3.12	3.12	10.09	0.00
Within Groups	98	30.33	0.31		
Total	99	33.46			

Table 3

*One-Way Analysis of Variance of Social Connectedness by Gender*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	1	3.62	3.62	9.15	0.00
Within Groups	98	38.73	0.40		
Total	99	42.35			

Table 4

*One-Way Analysis of Variance of Self-efficacy Scale by Gender*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	1	0.66	0.66	2.54	0.11
Within Groups	98	25.33	0.26		
Total	99	25.99			

Table 5

*Gender, Self-regulation, Social connectedness and Self-efficacy*

Subscale	n	ANOVA
Self-regulation	100	F(1,98) = 10.09, p < 0.01*
Social Connectedness	100	F(1,98) = 9.15, p < 0.01*
Self-efficacy	100	F(1,98) = 2.54, p < 0.11

\* Significant at 0.05 level

Three one-way ANOVAs were calculated to determine if differences existed in average scores of self-regulation, social connectedness, and self-efficacy, respectively, between male and female respondents. Results of the analysis for self-regulation scores suggest that there was a statistically significant difference on self-regulation between males and females ( $F(1,98) = 10.09, p < 0.01$ ). Female students showed significantly higher self-regulation scores than male students and scored higher than males, on average. Results of the analysis for levels of social connectedness indicated that there was a statistically significant difference on social connectedness between males and females ( $F(1,98) = 9.15, p < 0.01$ ). Female students showed significantly higher levels of social connectedness than male students and scored higher than males, on average. There was no significant difference in levels of self-efficacy between male and female students ( $F(1,98) = 2.54, p < 0.11$ ).

**RQ2. What is the relationship between the marital status of freshman developmental education students and levels of self-regulation, social connectedness, and self-efficacy?**

Table 6

*One-Way Analysis of Variance of Self-regulation by Marital Status*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	1	0.72	0.72	2.16	0.15
Within Groups	98	32.74	0.33		
Total	99	33.46			

Table 7

*One-Way Analysis of Variance of Social Connectedness by Marital Status*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	1	0.85	0.85	2.02	0.16
Within Groups	98	41.49	0.42		
Total	99	42.35			

Table 8

*One-Way Analysis of Variance of Self-efficacy Scale by Marital Status*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	1	0.16	0.16	0.60	0.44
Within Groups	98	25.83	0.26		
Total	99	25.99			

Table 9

*Marital Status, Self-regulation, Social Connectedness, and Self-efficacy*

Subscale	n	ANOVA
Self-regulation	100	$F(1,98) = 2.16, p = 0.15$
Social Connectedness	100	$F(1,98) = 2.02, p = 0.16$
Self-efficacy	100	$F(1,98) = 0.60, p = 0.44$

\* Significant at 0.05 level

Three one-way ANOVAs were calculated to determine if differences existed in average scores of self-regulation, social connectedness, and self-efficacy, respectively, between single and married respondents. Results of these tests suggest that there was no statistically significant difference between average scores for single and married respondents on subscales representing self-regulation ( $F(1,98) = 2.16, p = 0.15$ ), social connectedness ( $F(1,98) = 2.02, p = 0.16$ ), and self-efficacy ( $F(1,98) = 0.60, p = 0.44$ ). Thus, the apparent differences in average scores can be explained by a random variation as opposed to any systematic effects.

**RQ3. What is the relationship between the age of freshman developmental education students and levels of self-regulation, social connectedness, and self-efficacy?**

Table 10

*One-Way Analysis of Variance of Self-regulation by Age*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	3	1.25	0.42	1.24	0.30
Within Groups	96	32.21	0.34		
Total	99	33.46			

Table 11

*One-Way Analysis of Variance of Social Connectedness by Age*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	3	1.28	0.43	1.00	0.40
Within Groups	96	41.07	0.43		
Total	99	42.35			

Table 12

*One-Way Analysis of Variance of Self-efficacy Scale by Age*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	3	1.41	0.47	1.84	0.15
Within Groups	96	24.57	0.26		
Total	99	25.99			

Three one-way ANOVAs were calculated to determine if differences existed in average scores of self-regulation, social connectedness, and self-efficacy, respectively, between different age groups. Results of these tests suggests that there were no statistically significant differences across age groups in average scores representing self-regulation ( $F(1, 96) = 1.24, p = 0.30$ ), social connectedness ( $F(1, 96) = 1.00, p = 0.40$ ), and self-efficacy ( $F(1, 96) = 1.84, p = 0.15$ ). Thus, the apparent differences in average scores can be explained by a random variation as opposed to any systematic effects.

**RQ4. What is the relationship between the ethnicity of freshman developmental education students and levels of self-regulation, social connectedness, and self-efficacy?**

Table 13

*One-Way Analysis of Variance of Self-regulation by Ethnicity*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	4	2.29	0.57	1.74	0.15
Within Groups	95	31.17	0.33		
Total	99	33.46			

Table 14

*One-Way Analysis of Variance of Social Connectedness by Ethnicity*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	4	0.98	0.24	0.56	0.69
Within Groups	95	41.37	0.44		
Total	99	42.35			

Table 15

*One-Way Analysis of Variance of Self-efficacy Scale by Ethnicity*

Source	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Between Groups	4	1.64	0.41	1.60	0.18
Within Groups	95	24.35	0.26		
Total	99	25.99			

Three one-way ANOVAs were calculated to determine if differences existed in average scores of self-regulation, social connectedness, and self-efficacy, respectively, between different ethnic groups. Results of these tests suggests that there were no statistically significant differences in average scores across ethnic groups on subscales representing self-regulation ( $F(1,96) = 1.74, p = 0.15$ ), social connectedness ( $F(1, 96) = 0.56, p = 0.69$ ), and self-efficacy ( $F$

(1, 96) = 1.60,  $p = 0.18$ ). Thus, the apparent differences in average scores can be explained by a random variation as opposed to any systematic effects.

### **Reliability and Validity Analysis**

A reliability analysis was conducted for each scale. The Cronbach's alpha coefficient for each scale was calculated to examine its internal consistency. It demonstrated that the internal consistency of two of the scales was high. For this survey, the self-efficacy scale ( $\alpha = .83$ ) and the social connectedness scale ( $\alpha = .80$ ) are relatively good. However, the analysis showed that the self-regulation scale ( $\alpha = .57$ ) should be rechecked and modified.

### **Implications**

This needs assessment offered some preliminary information about the psychosocial factors underlying the persistence of freshman developmental education students at Lone Star College – Montgomery. Findings revealed a statistically-significant difference on self-regulation and social connectedness between males and females. In relation to male students, female students showed significantly higher self-regulation and social connectedness scores. However, this study was correlational in nature, and for this reason, it could not establish causal effects between variables. While a statement that self-regulation and social connectedness traits are more characteristic of females as opposed to males could not be fully supported by this study, the study results nonetheless implied that this might indeed be the case.

The lack of any association between social connectedness and age was unexpected and contradicted other findings in the literature. For example, Cornwell, Laumann and Schumm (2008) summarized research on social connectedness and concluded that “age has been found to be negatively related to network size, closeness to network members, and the number of non-primary-group tie” (p.113). Similarly, lack of association between the ethnicity and social

connectedness also contradicted common knowledge that such association must exist (Walton & Cohen, 2007). These inconsistencies suggested that the study might possibly be affected by methodological flaws that might have arisen due to sampling biases, issues related to validity and reliability of survey instruments or some other reason. Additional research to address the limitations of this study and to investigate influence of gender and ethnicity on social self-regulation and social connectedness is needed. As a result, my research included a focus on the male gender (because the needs assessment showed that they are less socially-connected than females), ethnicity (because previous research has shown that ethnic minorities tend to be less socially connected than students of the majority population), and social connectedness, also known as student engagement. Specifically, the research study examined African American and Latino male developmental education students and whether their participation in paired coursework learning communities could increase their level of student engagement and thereby foster their persistence towards graduation during the Fall 2016 semester.



### **Chapter 3: Developmental Education and Persistence Literature Review**

An empirical examination of factors underlying persistence of developmental education students at Lone Star College-Montgomery revealed that there was a statistically-significant difference in measures of the construct of social connectedness between male and female developmental education students. This result, coupled with statistics highlighting the significantly high attrition rate of African American and Latino males on college campuses, served as justification for a quantitative evaluation of how alternative developmental education programs could help African American and Latino males become more socially connected, or socially engaged, so that their likelihood of persisting and progressing towards graduation would increase.

The pervasiveness of developmental education as a part of the higher education landscape is an issue of national concern (Orange & Ramalho, 2013), particularly as it pertains to academically underprepared African American and Latino male students. Although the college enrollment of African American and Latino male students is the highest that it has ever been historically, the attrition of these students remains problematic, and their college completion rates remain the lowest as they tend to come from economically deprived contexts that do not adequately prepare them for the rigors of college coursework (Hagedorn & Maxwell, 2001; Kreysa, 2006). The current processes community colleges use to provide developmental services are in need of reform to reduce attrition among their students, particularly ethnic minority students such as African Americans and Latinos. However, despite the work of researchers who have been studying persistence and retention for nearly five decades, academicians are still unclear of how to remedy the problem of high attrition among developmental education students (Rigali-Oiler & Kurpius, 2012). Researchers recommend shortening and accelerating the course

sequences used in developmental education as a means of increasing student persistence and progress towards graduation (Jaggars, Hodara, Cho, & Xu, 2015). There are several means of accelerating developmental education coursework that have a positive impact on developmental education student persistence. One of the most viable means of acceleration leading to increased persistence among this population is through student participation in paired-coursework learning communities, which are shown to have a positive impact on developmental student persistence (Jaggars, et al., 2015). However, it has been unknown how effective the paired-coursework model of acceleration could be in fostering persistence and progress towards graduation of Lone Star College's African American and Latino male developmental education students. The purpose of this quantitative causal-comparative research study was to investigate how participation in an accelerated paired-course program could influence the persistence of African American and Latino male developmental education students to progress towards graduation. The research question that guided the study was:

RQ1. What is the effect of participating in accelerated paired-course programs on the persistence of African American and Latino male developmental education community college students?

This chapter will present a literature review of the most current research relevant to the study. After introducing Tinto's model of student integration and Eccles and Wigfield's (2000) expectancy-value theory as the conceptual models to develop the theoretical framework, the chapter will present reviews of the literature on the following: (a) factors negatively impacting persistence among developmental education students in community colleges; (b) factors positively impacting persistence among developmental education students in community colleges; and (c) programs that accelerate the completion of developmental education

coursework. This will be followed by a synthesis of the literature and an overview of the proposed research study.

### **Theoretical Framework**

The challenges surrounding the retention of African American and Latino male students are complex. Thus, no one model or theory can comprehensively explain the factors that influence the retention of this special population of community college students. Considering this, the researcher utilized two conceptual models to develop the framework guiding the study: Tinto's (1993) model of student integration and Eccles and Wigfield's (2000) expectancy-value theory. The following section contains an overview of each of these models and a rationale for their use in developing the framework used to guide this research study.

#### **Tinto's Model of Student Integration**

Tinto's (1975) model of student integration was developed to explain how students persist throughout college. It has "gained widespread acceptance in the literature and has become a principal theoretical tool of choice for researchers" examining persistence among college students (Kreysa, 2006, p. 254). Tinto's premise was that academics alone were not enough to foster the levels of persistence that students needed to complete college; social integration factors played a major role in helping them to persist towards graduation. According to Tinto (1993), the extent to which students become integrated into their campus community, both academically and socially, directly impacts their institutional and goal commitment to persist and progress towards graduation. Tinto (1993) characterized academic integration as a construct that describes students' satisfaction with the academic systems of the institution, including faculty, administration, and their peers and how they perceive that these systems are impacting the growth and development of their intellect and influencing their personal values, beliefs, and

attitudes. Tinto (1993) characterizes social integration as a construct that describes students' interactions with their peer groups, administrators, faculty, the school's social systems, and participation in extracurricular activities, to the extent that students feel personally cared for by people who have a genuine interest in them.

According to Tinto (2004), some students do not socially integrate into college and university life as successfully as others. This is especially true among minorities attending college from underrepresented populations. While Tinto's (1993) model did not specifically highlight race and ethnicity of students, he suggested that when students of the same race or ethnicity were connected on the college campus, this connection could serve to help them more readily adjust to college, and consequently, foster persistence and progress toward graduation. Thus, educational institutions bear the responsibility of removing cultural barriers so that these students can successfully connect to the college community, including other students in the community who share their race or ethnicity, and thereby increase their odds of retention through persistence and progress toward graduation.

Researchers have questioned whether Tinto's model would be applicable to nontraditional students. Karp, Hughes, and O'Gara (2010) examined Tinto's student integration framework in a qualitative research study using a sample comprised of two community colleges located in urban areas of the northeastern U.S. Based upon Tinto's framework, which posits that social integration weighs heavily on a student's decision to persist or to depart from a college, the researchers sought to discover whether the persistence of community college students, who are often perceived to lack the time necessary to participate in on-campus activities like clubs, organizations, and events that facilitate integration into the social climate of the college, would be affected by a perceived lack of opportunity for social integration. Data from in-depth

interviews with community college students indicated that the majority of students in the sample reported developing attachments to their community colleges, and Karp and colleagues (2010) found that this attachment was directly related to the students' persistence to remain in college. Additionally, the researchers found that the community college students' integration occurred on both social and academic levels and that the same activities in which the students engaged helped them to relate to others on both a social and academic level. Based on the results of this research, Tinto's model can be applied to nontraditional, or community college students.

Ashar and Skenes (1993) utilized Tinto's model in a research study that examined whether Tinto's model of student departure could be applied to explain retention among nontraditional students, or adult learners, who live off campus, are employed, and commute to college. The researchers utilized 25 classes in a college of management and business, all of which were comprised of adult learners, to evaluate four independent variables: (a) class size, (b) social, (c) academic, and (d) career integration. Results of the study showed that smaller classes were also more socially integrated and resulted in greater retention of students than larger and less socially-integrated classes. Thus, Ashar and Skenes (1993) concluded that the social environment in which learning occurs among nontraditional students is what helps to retain these students.

The work of Dukakis, Duong, Ruiz de Velasco and Henderson (2014) is closely linked to the fundamental tenets of Tinto's model of student integration. Dukakis and colleagues (2014) posit that interpersonal relationships are directly linked to persistence, the development of educational aspirations, completion of a bachelor's degree, and subsequent enrollment in graduate school among college students overall. Additionally, DaDeppo (2009) proposed that the experiences that students have in college, which help to integrate them into the life of the campus

socially and academically, directly impact their commitment to their educational institution and personal goals. This, in turn, impacts their retention. Solid connections or social help systems with associates, personnel and staff can be essential in encouraging both scholastic character and social improvement. Interpersonal connections are likewise specifically connected to the development of diligence, the improvement of instructive goals, completion of a four-year certification, and ensuing enlistment in master's level college students (Dukakis et al., 2014).

### **Eccles and Wigfield's Expectancy-Value Theory**

Eccles and Wigfield's (2000) expectancy-value theory is an achievement motivation theory engaged to explain how a student's expectancies and values influence achievement task choices, persistence and performance. The theory is built upon an expectancy-value theory that was first introduced by Atkins in 1954 (Demetriou & Schmitz-Sciborski, 2011). According to this theory, several factors play a role in a student's belief that he or she can complete certain educational tasks, including ability beliefs, perceived difficulty of task, individual goals, and affective memories. In an application of this theory, Bong (2001) conducted research to predict college student course performance and enroll in future courses and found that student enrollment was directly influenced by the value they assigned to their coursework. In a later research study grounded in expectancy-value theory, Bruinsma (2004) examined first and second year college students and found a positive association between the total number of academic hours a student earned and his or her expectancy and values. This was a valuable contribution to the body of research on retention in education because "earned hours are important indicators of persistence and progress toward graduation" (Demetriou & Schmitz-Sciborski, 2011, p. 309). Thus, the theory has great applicability to retention research and practice.

Expectancy-value theory is of particular relevance to discussions surrounding students engaged in developmental education course sequences. For example, in an argument for offering intentional affective support for developmental students, Hern (2012) explained:

When developmental students aren't successful in their classes, the core issue is often not their ability to handle the course content. They may well have the capacity to write a good essay or solve a particular math problem. But when they encounter a difficult task, or receive critical feedback, or start to feel hopeless about their prospect of success, many of them will disengage, withdraw effort, and even disappear from class (p. 64).

Consistent with expectancy-value theory, the challenges of participating in developmental education coursework can affect students' ability beliefs, perceived difficulty of task, individual goals, and affective memories. If they are not provided with some type of intervention with these struggles, there is a high probability that they will become leavers who abandon their college attainment pursuits, not because they cannot handle course content, but because their participation in developmental education process and its associated costs cause them to abandon their beliefs that they can complete the educational tasks before them.

Eccles and Wigfield's (2000) expectancy-value theory has been used to examine the persistence and educational values of adult learners. O'Neill and Thomson (2013) conducted a review to explore factors contributing to the persistence of adult learners, particularly those who are considered to be low-skilled. The researchers used expectancy-value theory to explain the various challenges faced by low-skilled adult learners who return to school in order to identify research-based strategies that colleges and professors can engage when designing educational programs for this nontraditional population. Sullins, Hernandez, Fuller, and Tashiro (1995) engaged expectancy-value theory in a research study to predict which university undergraduate

students would choose a major in a science-related discipline. Fong and Asera (2010) utilized expectancy-value theory in their cognitive motivational research that focused on developing a theoretical framework that could be used to increase the persistence of community college students who were enrolled in developmental math courses. The researchers concluded that the inclusion of a consideration of developmental and social theories such as expectancy-value theory is critical when developing support structures for community college students that will help to increase their motivation and persistence and ultimately succeed in school. Based upon the use of expectancy-value theory to study adult learners and college communities, it is assumed that this theory can be used for research pertaining to examining student persistence in community colleges.

### **Factors Negatively Impacting Persistence among Developmental Education Students in Community Colleges**

The most often-referenced researcher of student persistence, Vincent Tinto (1994), conducted extensive investigations into the underlying reasons why students depart from college – both four-year and two-year colleges and universities – prior to completing their degrees, with particular emphasis on two factors: the attributes of the student and the practices of the institution. Additional researchers have uncovered other variables that negatively impact persistence among developmental students, including the following factors.

#### **Requirement to Enroll in Developmental Education**

Many students who graduate from high schools in low-income communities discover, for the first time, that they are underprepared for college only after they take basic skills assessment exams. Their lack of preparedness is often attributable to the fact that the low-income schools that they attended did not have adequate resources necessary to prepare their students with the



skills that they would need to succeed in college (Wimberly & Noeth, 2005). This lack of preparation and the subsequent developmental education that underprepared students are required to take can serve to lower their motivation to enroll, persist in school and ultimately graduate. According to Bailey (2009), “student resistance to remediation requirements may help explain the low enrollment rates and high attrition rates” (p. 22). Venezia, Bracco, and Nodine (2010) discovered that many community college students who are referred to a developmental education coursework sequence after they have already graduated from high school often grow confused and frustrated at having to complete the courses as prerequisites to taking college-level coursework, and this “could translate into an erosion of academic aspirations and commitment” (Hodara & Jaggars, 2014, p. 249). Jacobson and Mokher (2009) conducted a longitudinal study of students in Florida and discovered that academically underprepared students who enrolled in community college were not likely to still be in college for more than one year. Of those who remained in college, no more than 19% earned a degree or certificate.

Adding to the de-motivation that students experience when they are required to take developmental education courses before being permitted to take college-level coursework is the realization that much of what they are learning in their developmental courses seems to be irrelevant (Jaggars et al., 2015). Grubb (2013) explained that if students who are enrolled in developmental education courses assess what they are learning and perceive that the curriculum is not strongly connected to the skills that they will need to succeed when they take the corresponding college-level course, there is a strong likelihood that they might abandon the academic motivation that is necessary to succeed in the developmental course.

## Financial Costs

Students who are referred to and participate in developmental education required as a prerequisite to enrollment in college-level courses pay a cost that could ultimately reduce their likelihood of graduation (Bailey, 2009). Bailey (2009) explained:

...developmental education carries significant financial and psychological costs to the students. While in developmental classes, students accumulate debt and spend time, money, and, in many cases, financial aid eligibility while not earning credits toward a degree. Even if no tuition is charged, remedial students bear the opportunity cost of lost earnings. In practical terms, taking developmental courses lengthens the time required to complete a degree, and factors that lengthen the time to degree... (p. 22).

Melguizo and colleagues' (2008) research compared the financial costs and time costs among transfer students in community colleges in Los Angeles and found that students in greatest need of remediation (predominantly comprised of African American and Latino students) suffered more financial and time costs than those who needed less or no remediation. Students who were the least prepared for college-level coursework and had to take more remediation paid a considerable cost of time (being enrolled for five years in community college) and money (almost \$7,000) that their better-prepared counterparts did not pay; their peers who were more prepared for college-level coursework only spent two-and-a-half years enrolled in community college and a little more than \$4,000.

Further, the financial costs of being required to take developmental courses have an even greater impact on students from low-income families than students of higher socioeconomic status. Bailey and colleagues (2005) found that students of lowest socioeconomic status were more likely to drop out of school and less likely to transfer to another degree-granting institution.

## **Emotional / Psychological Costs of Being Labeled “Remedial”**

Developmental education students often pay an emotional cost for having to take developmental education courses. Research conducted on developmental students by Strong American Schools (2008) revealed that the majority of the students thought that they were prepared for college. This discovery took an emotional toll on the students as Bailey (2009) noted, explaining, “it is also the case that students referred to developmental classes, most of whom are high school graduates, are often surprised and discouraged when they learn that they must delay their college education and in effect return to high school” (p. 22). Further, Deil-Amen and Rosenbaum’s (2002) research discovered that when students were made aware of the unanticipated deficiencies in their skills, and once they received the results skills assessment exams that highlighted their lack of preparation, discouragement resulted. The researchers asserted that these were causes of students growing so frustrated that they did not persist towards progressing through college and ultimately left college altogether (Deil-Amen & Rosenbaum, 2002).

Brock (2010) reported that underprepared students also paid the psychological price of being labeled on community college campuses. Although the open-admission policy of community colleges allows for underprepared students to enroll and attend classes on campus and utilize the institution’s resources, it is clear that there is a distinction made between them and the other students on the campus that are considered “college ready” thus marginalizing and isolating underprepared students from their peers (p. 116).

## **Time-to-Degree Delays**

Results from the National Education Longitudinal Study conducted by the U.S. Department of Education showed that having to take developmental classes delayed the time that

it took for community college students to complete their degree (Brock, 2010). The higher costs of time and money that underprepared students must pay to complete their community college degree tend to decrease their likelihood to persist through the process and towards graduation. As such, Bailey (2009) recommends, “one objective should be to get such students to college-level courses as soon as possible to minimize the expense and discouragement associated with remediation” (p. 27) by combining remediation levels or reducing lapses in time between levels. Hodara and Jaggars (2014) conducted a research study designed to examine the impact of accelerated coursework among developmental education students at the City University of New York after they were enrolled in shorter developmental education coursework sequences. The researchers discovered that “accelerating students through developmental education in shorter sequences results in greater access to college-level coursework and long-term success but may have consequences for student performance in college-level coursework” (p. 246). This notion is best summarized by Hern (2012), who observed that community college students leave school “at higher rates when facing semester after semester of classes that earn no credit toward a longer-term goal” (p. 61).

### **Lack of Adequate Institutional Resources**

Institutional factors can potentially have an influence the completion rates of developmental education students (Bound et al., 2010). Additional financial resources are required for educational institutions to be able to provide supplemental human and programmatic resources necessary to remediate underprepared students in preparation to take college coursework. However, if these financial resources are not available, the human and programmatic resources that the educational institution is able to make available for the remediation of students is limited, thus affecting collegiate attainment of students who enter

college with weaker academic skills (Bound et al., 2010). However, while such institutional factors can have some bearing on college completion rates of students in developmental education, it is significantly outweighed by the factor of students entering college underprepared (Bound et al., 2010).

### **Environmental Pull Factors**

There are certain environmental factors present in a minority student's life that serve to draw students into their campus environment, both academically and socially, which helps them to persist, while other factors serve to pull them away, which decreases their persistence and progress towards graduation (Nora, 2003). Variables that are considered to pull students away from social engagement in campus life include responsibilities with their families, financial issues, working an off-campus job, living off-campus and commuting to school, and being on campus part-time versus being a full-time student on campus (Nora, 2003). Bailey, Jeong, and Cho (2010) reported that nearly 15% of developmental community college students did not re-enroll for the next course in their sequence even though the students successfully completed every other developmental course in which they were enrolled. The researcher used these results to suggest that their lack of persistence was not due to academic difficulties, but there were other factors at work – environmental or external pull factors – that pulled these students out of school (Jaggars et al., 2015).

According to Jaggars and colleagues (2015), environmental pull factors have a significant impact on the persistence and progress of students towards graduation: (a) nearly 79% of students enrolled in community college are employed, usually working 32 hours each week; (b) 35% of community college students care for children or other dependents; (c) 15% of community college students are single parents; and (d) 50% of community college students are at risk of

dropping out of school as a result of financial issues. Crisp and Nora (2010) identified how environmental pull factors, including financial aid, working a certain number of hours each week (in addition to attending school), and the intensity of the student's enrollment impacted persistence among Latino community college students. The results of the study indicated that each of these environmental pull factors had an impact on the success of developmental students during their second year of college, negatively impacting their ability to persist and complete their education.

Fowler and Boylan (2010) identified the same types of non-academic factors in students' lives, which have a significant impact on students' academic progress and persistence towards graduation. The researchers noted that while such factors are an important consideration for all students, they become an especially important consideration for students who require developmental education. Not addressing these non-academic factors tend to negatively affect the academic outcomes of developmental education students more than any other student population. For this matter, rather than focusing solely on academics with these students, Fowler and Boylan (2010) recommended that the educational institution also collect data about students' personal attributes and non-academic factors and use this information to create innovative programs that the school can administer to help them navigate these challenges.

In the study, Fowler and Boylan (2010) detailed a program that integrated components to address each area of need for developmental students. To address students' academic needs, program facilitators offered developmental coursework and tutoring. To meet students' personal and non-academic needs, program facilitators used academic advising (at an intrusive level whereby the advisor is concerned about both academic and personal issues in a students' life), clear student guidelines that detail exactly what is expected of all students, and transitional

coursework. The results of the research showed that students who participated in the program showed improvements in all measures of success, including their cumulative GPA. Fowler and Boylan (2010) attributed these desirable outcomes to the attention program administrators offered to students. The researchers reported of their results:

...nonacademic and personal factors are as relevant to student success as are academic factors, especially with students who are underprepared in all subjects. The “high touch” environment provided by the PWAY Program seems to set the stage of increased student success and retention beginning with orientation (p. 9).

Considering the significant impact that environmental pull factors can have on the persistence and progress towards graduation of community college students, Jaggars et al. (2015) highlight the need for institutions to “create curricular structures that would reduce the time to degree and thus reduce opportunities for life events and other outside commitments that pull students away from school before they earn skills of value” (p. 5).

### **Factors Positively Impacting Persistence among Developmental Education Students in Community Colleges**

Researchers have indicated several factors that have been demonstrated to positively impact the persistence of developmental education students to progress toward graduation and complete college. For example, Barbatis (2010) conducted research driven by the question, “to what did underprepared community college students who participated in a learning community and completed their developmental classes attribute their having graduated (graduates) or earning at least 30 credit-bearing college credits (the persisters) as compared to those who participated in a learning community but did not complete their developmental classes and who dropped out of college (dropouts)” (p. 16). The qualitative research, which engaged a sample of

22 subjects at a large community college in an urban area, was driven by individual semi-structured interviews and a focus group yielded findings that centered on four emergent themes: (a) pre-college characteristics and traits, (b) external college support/community influences, (c) social involvement/student engagement, and (d) academic integration. Each of these themes is supported throughout the literature as being major influences on persistence among underprepared and ethnic minority community college students and are thus used to discuss the literature on factors contributing to student persistence in higher education.

### **Pre-college Characteristics and Traits**

The pre-college characteristics factor is defined as “those attributes students bring to college” (Barbatis, 2010, p. 19). This factor tends to include such internal traits as: (a) sense of responsibility, (b) goal orientation, (c) resourcefulness, (d) determination, (e) cultural and racial self-identification, and (f) faith. These traits tend to impact the persistence of developmental students toward graduation (Barbatis, 2010).

Research indicates that pre-college characteristics like race and ethnicity, socioeconomic status, gender, and economic class are associated with higher attrition, or failure to persist towards the completion of college and graduation among students who are referred to and enroll in developmental courses (Barbatis, 2010). For example, Barbatis (2010) found that students who persisted towards the completion of college “more frequently mentioned a sense of responsibility, goal orientation, resourcefulness, and determination” as factors leading to their persistence and success in college” (p. 19). This was in contrast to the finding that students who tended to drop out, allowing challenging life situations to deter them from achieving their goals (Barbatis, 2010).



Research by the U.S. Department of Education showed that there are two indicators that are able to best predict which students are most likely to persist and earn a college degree: immediate enrollment in college after graduating from high school and educating students with a curriculum in high school that emphasizes the student's ability to read at a level commensurate with his or her grade and ensuring that the student takes math classes above the basic algebra level (Brock, 2010). Additionally, having a higher income or socioeconomic status and being classified as a traditional student as opposed to (nontraditional student students who might be single-parents, have full-time jobs, did not immediately enroll in college after high school, etc.) are predictors of persistence and college completion (Brock, 2010).

Burns (2010) offered additional factors that contribute to persistence and college completion. In addition to being from a high-income family, and attending college immediately after graduating from high school, and being a traditional full-time student, other factors that increase the likelihood of college completion include being prepared in high school with strong academic skills, being from a household in which both parents attended a college or university. Tinto's (1997) research also revealed several factors that characterized students' lives before entering college contributed to their persistence toward completing their coursework and graduating. These factors included: (a) being of middle class to upper class socioeconomic status, (b) displaying positive levels of achievement, and (c) having strong family support. However, Tinto (1975) also emphasized that it was necessary for students to disengage from their families, cultures, and past relationships to effectively assimilate themselves into the culture and campus life of the college that they attended and persist towards completion. This is in contrast to Barbatis' (2010) research in which those who persisted maintained a close connection to their friends, family member, and culture.

Consistent with other researchers, Karp, O’Gara, and Hughes (2008) reported a positive association between being academically underprepared and the lack of social capital that increases a student’s likelihood of completing college. Without having access to social capital like parents who have attended college, having earned a high school diploma, having immediate or extended family members who either attended or graduated from college, or having access to other people or resources that can provide them with college information, help them with college applications, or know where to go to find certain college resources (like tutoring, counseling, advising, etc.), students often do not have access to the knowledge and services that they need to persist in college and ultimately graduate. Students with greater levels of social capital exhibit greater tendency to seek and take advantage of support services on their college campus (Karp et al., 2008). Unfortunately, those who are academically underprepared typically have low social capital, and therefore they do not have access to people to point them in the right direction or to any other means that will help them to access to the information and resources that they need to be academically successful (Karp et al., 2008).

### **External College Support / Community Influences**

The external college support / community influences factor is characterized as “supportive families who include parents, (mothers were named more often than fathers), siblings, grandparents, cousins, and fiancées. In addition, friends developed in K-12, as well as high school teachers...” (Barbatis, 2010, p. 19). These factors tend to impact the persistence of developmental students toward graduation (Barbatis, 2010).

### **Student Engagement / Social Involvement**

The social involvement factor is characterized as “students who are involved on campus in different clubs and organizations and their interaction with other students” (Barbatis, 2010, p.

19). This factor tends to include the influences of student life activities and peer interaction, and it tends to impact the persistence of developmental students toward graduation (Barbatis, 2010). The construct of social involvement parallels student engagement, which has been shown to be a valuable factor in increasing student retention and promoting academic success in adult learning environments (Allen & Lester, 2012). Termed student engagement theory, the fundamental premise of the construct is that “students must be meaningfully engaged in learning activities through interaction with others and worthwhile tasks” (Allen & Lester, 2012, p. 9).

Student engagement as a means of contributing to student persistence is grounded in the theory of Tinto’s (1975) model of integration, which posits that there is an increased likelihood that students will persist through college when they feel more integrated in the college community and feel that they are valued by the college community. A notable shortcoming of Tinto’s (1975) work, however, is that it failed to examine student integration on college campuses among students who are underprepared and culturally underrepresented (Barbatis, 2010). Tinto (1994) found that although students enter colleges with varying levels of preparation, skill development, educational goals and objectives, and responsibilities outside of school, these pre-existing factors are not the sole determinants of their ability to persist and complete college. Instead, what is equally important is what occurs with the students when they enter into college, like how successfully they are integrated into their classrooms, their living quarters like dormitories, cafeterias, and other social spaces where interaction occurs (Tinto, 1994). Thus, while some researchers argue that the challenges that colleges face with low student persistence could easily be remedied by ensuring that all students were equipped in elementary, middle, and high school with the academic skills necessary to prepare them for more advanced learning in college, Tinto (1994) argued that this is not necessarily the case. The role that higher

educational institutions play in integrating, acculturating, supporting, and ensuring student success is as important a role as the preparation of the students when they enter the college or the university (Brock, 2010). Thus, while academic preparation is undoubtedly a key factor in student persistence, there are other institutional factors that underlie the persistence of students in colleges and universities.

Consistent with Tinto (1994), Fowler and Boylan (2010) touted the benefits of developmental coursework as transitional programming for first-year students, particularly concerning how it helped to foster student engagement among these students. Not only do these programs equip underprepared students with the academic skills they need to succeed when taking college-level courses, but they close monitoring that they undergo as participants in developmental programming helps to foster a sense of community among these students and the faculty who teach them as well as feeling a sense of safety and support, thus contributing to their levels of student engagement on the campus. According to Fowler and Boylan (2010), these non-academic benefits of students' participation in developmental education are just as critical to fostering student engagement, and therefore persistence, and the academic courses themselves. The researchers explained:

Such programs allow students to feel they have a safe environment in which to learn, matter to the institution, and are supported as they form social support networks...

Inherent in these programs is continuous student engagement and interaction with faculty and advisors, both of which allow a student to develop a professional relationship and feel a sense of connectedness with faculty, academic advisors, staff, and the institution as a whole (p. 3).

Student engagement can be particularly purposeful for first year students. Kuh and colleagues (2008) examined academic attainment and persistence among first year college students and found a positive relationship between these outcomes and student engagement. Their research discovered that student engagement produced a compensatory effect that was present for all the students in the study, although it was present at an even greater level for students who possessed lower academic abilities. Because of these effects produced by student engagement, the first-year students in the study were more likely to persist and re-enroll for a second year at the same college (Kuh et al., 2008).

Liff (2003) examined social and emotional intelligence in developmental education students and concluded that because social interaction and student engagement were so critical to a student's academic success, it is necessary for developmental educators to integrate teaching about social and emotional intelligence into their developmental classes. Possessing emotional intelligence would increase their students' abilities to engage with others using social skills in a more appropriate and comfortable way, build connections, and foster relationships with others, thus increasing their social interaction and student engagement and contribute towards developing the persistence that they need to be academically successful and graduate (Liff, 2003).

**Engagement in extracurricular activities outside of the classroom.** Astin (1984) found that the more time a student spent engaged in co-curricular and extracurricular activities beyond the classroom, the higher the student's persistence and ultimate academic success. Karp, Hughes, and O'Gara (2010) conducted a study in which they examined community college students and found that although it is often assumed that these non-traditional students do not have the time to participate in extracurricular activities outside of the classroom, they do engage in socially-

integrating activities, which contributes to their persistence to remain in school in the same way that it does traditional college students.

**Engagement in relationships.** Relationships can lead to positive outcomes in retention due to the sense of being an integral part of the college community that it fosters in the lives of students (Gilardi & Gulgielmetti, 2011). Barbatis (2010) explained, “failure to connect with others on campus, including peers, student organizations, faculty, and/or staff, contributes more to voluntary withdrawal than almost any other factor” (p. 20).

**Engagement in learning communities.** Other forms of student engagement like the formation of learning communities can have a positive effect on student outcomes, with the most notable outcome being persistence characterized by re-enrollment at the same institution. There is a positive association between participation in a learning community and other persistence-fostering factors such as: (a) a student’s level of engagement in learning, both on an active, individual basis as well as in collaboration with other students; (b) a higher level of interaction with members of the college faculty; and (c) a higher level of satisfaction overall with their college experience as a whole (Zhao & Kuh, 2004). Academically underprepared students enrolled in developmental education learning communities tend to academically outperform students enrolled in developmental education without participating in learning communities (Raftery, 2005).

Brooklyn, New York-based Kingsborough Community College conducted a learning community intervention entitled “Opening Doors,” which was developed for increasing the academic success of its low-income students attending the community college. In this intervention, 1,500 low-income freshmen, most of whom were required to take a developmental course in English, were either randomly assigned to small program groups consisting of 15 to 25

other students who took three courses that were linked together during their first semester or to a control group comprised of students who did not take linked courses or participate in a learning community. The freshmen who were a part of the linked-course learning community took three courses together in their first semester: (a) a student success class in which a college counselor taught skills including how to manage their time, how to study effectively, etc.; (b) a college-level course like health or introductory psychology; and (c) an English course, which was a developmental level course for most students. After evaluating the students in the learning community and the control group over two years (four semesters), study findings showed that “students in the learning communities were more likely to feel integrated at school and to be engaged in their courses and with fellow students and instructors” and that these students also “passed more courses and earned more credits during their first semester, moved more quickly through remedial English requirements, and were more likely to take and pass an English skills assessment test that was required for graduation” (Brock, 2010, p. 117-118). However, Brock (2010) also notes that although these differences between the intervention and control groups existed, they were modest, and the effect on the students’ persistence was not an immediate one.

Visher et al. (2012) examined six community colleges that paired courses in various ways to form learning communities. The study produced several key findings. First, the researchers discovered that learning communities had “no discernible effect on persistence” (p. 29). The students who participated in the learning communities did not exhibit any greater likelihood of re-enrolling in the college in the subsequent semester or in two or three semesters after the semester in which they participated in the learning community. Next, the Visher et al. (2012) study found that there was “a positive effect on progress in a targeted subject (either English or mathematics)” (p. 29). Students participating in these communities were significantly more

likely to attempt and earn credits in either English or math, than students who did not participate in the learning community, and some of the program's impact was still evident in the students up to two semesters following their participation in the learning community (Visser et al., 2012). Then, the researchers discovered that there was "no discernible effect on progress outside the targeted subject" (Visser et al., p. 31). Therefore, the only benefits that students realized on their academic progress were those directly tied to the paired-course subject area that was targeted in their learning community. Also, the study results indicated "a small positive effect on overall academic progress (total credits earned)" (Visser et al., p. 31). When students participated in the paired-course learning communities, they earned a half-credit more than their counterparts who took the developmental course in the traditional format. Thus, by the end of the semester, their group accumulation of credits was slightly higher (by 8%) than the control group. However, over the next two semesters, the impact of this small increase grew less and less significant, to the point that it was not statistically significant by the end of the third semester following their participation in the learning community (Visser et al., 2012). Finally, the study of six community colleges that paired courses for developmental education found a "varying effectiveness among colleges with respect to progress in the targeted subject area but fairly similar effects across eight colleges with respect to overall academic progress" (p. 31). Therefore, in the area of credit accumulation, which is an indication of persistence and progress towards graduation and attaining a degree, there was a consistency in the results produced among all of the colleges in the study. Their average effectiveness points to the credibility of the study and increase confidence that the outcomes are "a reasonable summary of the average effectiveness of learning communities" at the six colleges used in the research study (Visser et al., 2012, p. 31).



## **Academic Integration**

The academic integration factor is characterized as “students’ inclusion in the campus academic culture and their interface with academia” (Barbatis, 2010, p. 19). This factor tends to include the influences of: (a) faculty, (b) campus resources, (c) time management, and (d) self-reliance / independence and tend to impact the persistence of developmental students toward graduation (Barbatis, 2010).

Astin (1993) examined factors contributing to student success and persistence and discovered that the more frequent interactions the students shared with faculty members, the more satisfied that they were with their overall college experience, more so than any other student engagement factor. However, Nora and Cabreara’s (1996) research noted that certain students, particularly those engaged in developmental or remedial education, and cultural and ethnic minority students tend to rarely develop close relationships with the faculty members who teach their classes. Thus, they do not benefit as widely from this persistence-boosting effect as their non-developmental and White mainstream counterparts.

Research indicates a positive relationship between the engagement of students in activities that are educationally purposeful and higher grade attainment as well as increased persistence towards academic goals (Pascarella & Terenzini, 2005). In contrast, students who do not persist and leave college without receiving any credentials tend to be less academically engaged than their fellow students who persisted and completed college (Hughes & Pace, 2004). Barbatis (2010) found that students who persisted towards the completion of their courses and progressed toward graduation were more likely to have had “good experiences and positive interactions with college faculty” (p. 20). Additionally, this group of students was more likely to access campus resources (Barbatis, 2010).

A considerable amount of weight is attributed to the role of academic integration in the retention in college students and student success, even above other factors that were traditionally thought to be solid predictors of student success. For example, student engagement activities like tutoring can outweigh the influence of standardized test scores, which were considered to predict student success (Laskey & Hetzel, 2011). Allen and Lester (2012) explain, “once college experiences are taken into account – enrollment status, working off campus and so forth – the effects of pre-college characteristics such as ACT or SAT scores diminish considerably” (p. 9). Lloyd and Eckhardt (2010) also found that student engagement through tutoring and coaching resulted in increased academic attainment in students’ first and last years of college and affected the persistence of first year students to enroll for a second year at the same school.

Allen and Lester (2012) conducted a study supporting how academic support could impact persistence. The research was conducted on a two-year technical college in Georgia that was facing troubling student retention rates and after analyzing a six-term period found that academic attainment in learning support math courses offered by the college directly influenced the retention of its students; the alarmingly high attrition rate of students in some of the learning support math courses they offered was associated with low academic attainment in the courses. Seeking to address this challenge, the researchers developed a College Survival Skills Course, a program to enhance student engagement in order to increase the performance of students taking remedial courses in math. The course, taught by a success coach, focused on tracking and benchmarking students’ academic progress, helping to foster a sense of connection between the students and the institution, building a sense of relationship students and the instructors who taught their learning support classes, helping students to visualize success, teaching students to be accountable, and engaging students in dialogue about their college experience, among other

strategies. Analysis of a survey distributed to students who took the College Survival Skills course, results revealed that student engagement in the program led to better academic performance in learning support math courses than for students not enrolled in the success course (Allen & Lester, 2012). Thus, the research of Allen and Lester (2012) supported that “student engagement leads to improved academic performance and retention, especially with learning support students” (p. 12) and corroborated other research yielding similar results (Kuh et al., 2008).

Based upon the body of research about the positive effects of student engagement on academic attainment and persistence, Allen and Lester (2012) report that “institutions should seek ways to channel student energy toward educationally effective activities, especially for those who are academically underprepared” (p. 9).

### **Programs that Accelerate the Completion of Developmental Education Coursework**

Researchers generally agree that in order to increase the likelihood that developmental education students will persist and progress towards graduation, the traditional process of offering developmental education must undergo reform. This reform will require administrators and educators to change their mindsets about both the goal of developmental education and the structure of the course sequences through which they are offered by using innovative approaches like modularization and course acceleration (Perry, Bahr, Rosin, & Woodward, 2010).

Only with widespread reform in developmental education processes and curriculum will community college institutions be able to keep students motivated and hopeful of being able to reach and complete their college-level courses to earn credits towards graduation (Hern, 2012). In research on “stopping the blood loss from our developmental arteries,” Hern (2012) concluded one primary principle that community colleges must embrace to curb high attrition of

developmental students is by allowing students to have broader access to the college-level courses that they need to earn credits and progress towards graduation. The researcher noted, “if we leave our long sequences unchanged, we will never see meaningful progress in student completion” (Hern, 2012, p. 64). Similarly, Brothen and Wambach (2004) recommended that “developmental education practice should be geared more toward integrating underprepared students quickly into the regular college curriculum” (p. 20). However, for such changes to take place on a widespread level, reform must first take place on a systemic level. These reforms are garnering the attention of many supporters, including the Bill & Melinda Gates Foundation, which announced that it was committing up to \$110 million to further research and bring scale to developmental education programs that used innovative means to accelerate the progress of underprepared students (Bill & Melinda Gates Foundation, 2010).

Some states, like Florida and Connecticut, have already passed recent legislation mandating colleges to develop and implement acceleration strategies that will reduce the amount of time it takes for students requiring developmental education to enroll in college-level courses and graduate (Jaggars et al., 2015). Other states are considering and planning similar legislation, having realized the positive benefits of accelerating the developmental education of their students (Jaggars et al., 2015). Thus, it is incumbent upon academic researchers and practitioners to begin seeking creative, innovative strategies that can be used to accelerate the development of underprepared students, which will reduce attrition by helping them to persist and progress towards graduation.

The acceleration of developmental coursework offers several benefits to the student: (a) it reduces the opportunities for external environmental factors to pull the student out of school before completion; (b) it reduces the loss of additional money and time that are associated with

enrollment in developmental education; and (c) it minimizes the negative and de-motivating psychological consequences that are often experienced when students realize that they have to wear the label “underprepared” or “remedial” (Edgecombe, 2011; Jaggars et al., 2015).

Although research surrounding the topic of developmental education acceleration remains limited, some notable observations have resulted from the research that has been conducted (Jaggars et al., 2015). The most recent research on the acceleration of developmental education sequences among students at community colleges indicates that students who engage in accelerated pathways demonstrate a greater likelihood of completing corresponding college-level coursework within three years than their counterparts who do not engage in accelerated learning (Jaggars, et al., 2015).

There are some in academia who hold an opposing view of the value of accelerating developmental education. For instance, while Edgecombe (2011) found that models of acceleration yielded promising results and was able to successfully move students through their developmental coursework and into their sequence of college-level courses, others like Goudas and Boylan (2012) remain skeptical of such models because they believe that the short-term reported benefits mask a larger issue. Goudas and Boylan (2012) argue that although the immediate short-term benefits of developmental education acceleration appear to be clear, these results are merely a smokescreen and cover up the cons (like inadequate skills development) of accelerating developmental coursework for some students that will only come to surface in the future.

Jaggars et al. (2015) took issue on several points concerning previous research on the acceleration of developmental education, which consistently reports favorable results and indicate that developmental acceleration is a beneficial approach to increasing persistence and

progress towards graduation: (a) most of the studies reporting positive results did not include a control group; (b) studies that included a control group were mostly descriptive (Edgecombe, 2011); (c) other high-profile studies used a treatment (accelerated developmental model) and control group (traditional developmental model) but did not take into consideration, attempt to measure, or control in the analysis any pre-existing differences that might have existed between the two groups, which limited the reliability of the findings; (d) studies usually focus on outcomes that manifest in the short-term (one year) rather than in the long-term (two or three years), potentially ignoring the idea that if students following the traditional educational model could eventually complete become eligible to enroll in and complete their college-level coursework if given more than one year; and (e) studies rarely differentiate how acceleration affects the progress of students who score higher versus lower-scoring students who are required to take a sequence of developmental education courses (Jaggars et al., 2015).

One of the most notable recent studies of developmental education acceleration was conducted by Hodara and Jaggars (2014). This study was among only a scarce number of studies that examined the long-term impact of developmental acceleration on lower-scoring developmental education students. For English courses, the results of the study indicated that acceleration resulted in greater numbers of this population of students being able to enroll in and complete college-level English with a passing grade, the overall pass rates of students within college-level English experienced a slight drop. For math courses, the study indicated that acceleration resulted in greater numbers of this population of students being able to enroll in and complete college-level math with a passing grade, and there was no drop in the pass rates.

In sum, the recommendations in the body of research literature on how accelerated developmental education can best be used to help developmental students persist and progress

toward graduation are best explained by Jaggars and colleagues (2015), who promote the concept of “supported acceleration.” Supported acceleration is the process of “compressing or shortening the student’s sequence while providing academic and affective supports that help him or her succeed in that more rigorous environment” (p. 21).

### **Synthesis of the Literature**

The topic for this research study emerged as a result of a needs assessment in which the researcher empirically examined factors underlying the persistence of developmental education students at select branches of Lone Star College. The findings of the needs assessment justified the need for a quantitative evaluation of how alternative developmental education programs can help African American and Latino males become more socially connected, or socially engaged, so that their likelihood of persisting and progressing towards graduation will increase. In conducting the current research study, which was grounded in the theories of Tinto’s (1975) model of student integration and Eccles and Wigfield’s (2000) expectancy-value theory, the researcher sought to answer the question, “what is the effect of participating in accelerated paired-course programs on the persistence of African American and Latino male developmental education community college students?”

There are several factors highlighted in the current body of literature that negatively impact persistence among developmental education students in community colleges. These include: (a) the requirement to enroll in developmental education, which tends to demotivate and discourage students (Hodara & Jaggars, 2014) and foster a sense of resistance in the students (Bailey, 2009); (b) financial costs, which are higher for developmental students who are required to enroll in and pay for extra courses that do not earn college credits toward graduation (Melguizo, Hagedorn, & Cypers, 2008); (c) emotional and psychological costs of being labeled

“remedial” and the distinctions that are made between developmental students and college-ready students (Brock, 2010); (d) time-to-degree delays that result because of the extra semesters of courses that developmental students are required to complete as pre-requisites to enrolling in college-level courses (Hern, 2012); (e) lack of adequate instructional resources, which limit the amount of financial and support resources that institutions can offer to developmental students to help them succeed in college (Bound et al., 2010); and (f) environmental pull factors, which include family obligations, off-campus employment, living off campus, financial responsibilities, being a part-time student, and other variables, all of which distract students from making completing college their priority and pull them out of school before they graduate (Bailey et al., 2010).

Additionally, there are other factors highlighted in the current body of literature that have been shown to positively impact persistence among developmental education students in community colleges. These include: (a) pre-college characteristics and traits like socioeconomic status, race, determination, and resourcefulness, among other factors, that propel students toward the completion of their academic goals (Brock, 2010); (b) external college support and community influences, which provide additional support and resources to students, alleviating distractions that might cause them to feel the need to drop out of school (Barbatis, 2010); (c) student engagement and social involvement, which give students a sense of belonging, integration, and connectedness to the college community and campus life (Tinto, 1994); and (d) academic integration, which leads to students becoming integrated into the academic culture and developing connections to faculty and administrators, trusting them to provide the guidance and support that is necessary for them to be successful students (Allen & Lester, 2012).



In light of previously published literature on the topic of developmental student persistence and African American and Latino male collegiate attainment, the purpose of this quantitative causal-comparative research study was to investigate how participation in an accelerated paired-course program could influence the persistence of African American and Latino male developmental education students to progress towards graduation.

### **Overview of Proposed Research Study**

The LSC system seeks to reduce its rate of attrition for African American and Latino male developmental education students, as this segment of the student population has one of the highest attrition rates among all students across its six campuses. As a means of reducing attrition rates, LSC has introduced accelerated paired-course programs, which allow developmental education students to reduce the time necessary for the completion of their coursework and increase their progress toward graduation. While acceleration programs have been shown to increase student motivation and persistence in general, it was not known how effective the paired-coursework model of acceleration would be in fostering persistence and progress towards graduation of the school system's African American and Latino male developmental education students. The purpose of this quantitative causal-comparative research study was to investigate how participation in an accelerated paired-course program could influence the persistence of African American and Latino male developmental education students to progress towards graduation.

The paired-coursework model of acceleration was selected for this research study because, according to research, this model has the ability to increase the motivation and persistence of developmental education students towards graduation (Jaggars et al., 2015). The six LSC campuses offered course pairings in one of two ways: by pairing a developmental

course with its non-developmental course counterpart (referred to as ‘paired courses’) or by pairing a college-level course with a supplemental success course (referred to as mainstream ‘paired with support’). Enrollment in paired courses on the LSC campuses was optional and voluntary for students enrolled in Fall 2016. Students who chose to enroll in an accelerated paired-course program on one of the LSC campuses participated in the course pairings offered by their respective colleges. Students who chose not to participate in an accelerated paired-course program enrolled in standalone, non-accelerated courses.

## **Chapter 4: Methodology for Conducting Paired-Course Evaluation**

High student attrition is a matter of great concern for community colleges across the U.S. (Bound et al., 2010). Researchers suggest that this is in large part due to the finding that nearly half of all students accepted into U.S. community colleges enroll in these educational institutions underprepared with the fundamental academic skills that are necessary to succeed in completing college-level coursework (Bailey, 2009). To address their lack of preparation, community colleges assign underprepared students to developmental education course sequences to boost students' academic skills in key subject areas like reading, writing, and math before the students are eligible to enroll in college-level coursework. However, being assigned to developmental education is associated with a lack of persistence and progress toward graduation, as less than one-third of students who actually enroll in developmental education courses to which they are referred complete a certificate or a degree within eight years of their enrollment in the college (Bailey, 2009). The attrition rate is particularly high among African American and Latino males, which have the lowest college completion rate of all other race and ethnic groups on campus (Parker, 2007). Community colleges have attempted to develop innovative methods of reforming the current process of developmental education to increase the retention of developmental students and reduce attrition (Hern, 2012). Researchers generally agree that a major modification that can make a significant difference in the persistence of developmental education students is accelerating the amount of time it takes to complete their developmental coursework, a factor strongly associated with student persistence.

LSC has begun offering developmental education students across its six campuses the opportunity to participate in paired coursework programs, a move which will accelerate the time it will take them to graduate, which has been shown to generally increase student persistence and

progress towards graduation. However, it was not known how effective the paired coursework model of acceleration would be in fostering persistence and progress towards graduation, specifically among the school system's African American and Latino male developmental education students. Additional research was necessary to determine if acceleration offered through paired coursework programs could facilitate persistence and progress towards graduation among African American and Latino male developmental education students in the community college system.

The purpose of this quantitative causal-comparative research study was to investigate how participation in an accelerated paired-course program could influence the persistence of African American and Latino male developmental education students to progress towards graduation. Participants in the study were first- and second-year African American and Latino male students enrolled during the Fall 2016 semester in one of the following accelerated course pairings offered on campuses throughout the LSC system: mainstream 'paired with support' or paired courses. Both accelerated models paired introductory college-level reading and/or writing with developmental courses, supplemental courses, or other learning supports and are therefore considered paired course programs. Descriptions of each of these types of course pairings offered by LSC is presented in detail in the following sections.

First, LSC's mainstream 'paired with support' model of acceleration allows for students with developmental education referrals to enroll into introductory college-level courses and pairs the course with one of the following: (a) a mandatory companion class; (b) lab sessions; or (c) other learning supports. Although the college-level is paired with either another class or another type of supplemental support, the mainstreaming model is still considered a "paired course"

because it is formally paired with another supplement needed by the developmental education student. According to LSC (2016):

...with college-ready and developmental students enrolled in the same college-level course, there are more opportunities for underprepared students to be exposed to the classroom practices and work habits of higher-achieving students and to engage with a more challenging and potentially enriching curriculum. The supplemental support experiences are explicitly designed to increase the likelihood of success in the college course. (“Mainstreaming with Supplemental Support” designated as Mainstream ‘Paired with Support’)

Second, LSC’s paired course model of acceleration allows for students with developmental education referrals to enroll into developmental and college-level courses simultaneously. According to LSC (2016):

The acceleration mechanism for paired courses allows students to simultaneously pursue developmental and college coursework and thus begin to accrue college credit earlier than they would if they were required to complete all developmental education courses first. The paired structure not only eliminates exit points between developmental and college classes that would otherwise be taken in different semesters but also makes basic skills instruction more relevant to students through immediate linkages with the college curriculum. (“Paired Courses”)

This chapter will present the methods that were used to conduct the study. First, the research design of the study, including the process evaluation and the outcome evaluation will be described. Secondly, the study methodology, including descriptions of the participants and data

sources, the procedure being evaluated, data collection procedures, and data analysis procedures. Finally, the chapter will conclude with a summary of the research methodology.

### **Research Design**

This quantitative research study was conducted using a quasi-experimental causal-comparative research design that used Fisher's exact test to analyze archival data as a means of comparing the persistence outcomes of African American and Latino male developmental education students enrolled in accelerated paired course programs with the persistence outcomes of those enrolled in standalone, non-accelerated courses. The researcher conducted the study to examine the effects of participation in paired course programs on minority male developmental education students' persistence and progress toward graduation.

This study was guided by the following research question:

R1: What is the effect of participating in accelerated paired-course programs on the persistence of African American and Latino male developmental education community college students?

The hypotheses for the study were:

H<sub>0</sub>: There will be no difference between the persistence of African American and Latino male developmental education students engaged in accelerated paired-course programs and the persistence of those enrolled in standalone, non-accelerated courses.

H<sub>1</sub>: African American and Latino male developmental education students engaged in accelerated paired-course programs will demonstrate greater persistence than those enrolled in standalone, non-accelerated courses.

## Research Design

A quantitative research design was selected by the researcher to conduct the research study. Yilmaz (2013) defined quantitative research as “research that explains phenomena according to numerical data which are analyzed by means of mathematically-based methods, especially statistics” (p. 311). Qualitative research methods are typically used when researchers desire to understand the individual meaning that is ascribed to a particular phenomenon or problem through the lens of an individual or a group of individuals (Creswell, 2014). In contrast, quantitative research methods are generally used when researchers seek to objectively investigate causal relationships among independent variables to explain social behaviors using numbers (Yilmaz, 2013). A quantitative research method is “concerned with outcomes, generalization, prediction, and cause-effect relationships through deductive reasoning” as opposed to qualitative studies, which are “concerned with process, context, interpretation, meaning, or understanding through inductive reasoning” (Yilmaz, 2013, p. 313). Additionally, quantitative research begins with the testing of a theory that is used to examine the relationship among variables in a study (Creswell, 2014).

Based on the literature, a quantitative research process was most appropriate to conduct the research study. First, in accordance with quantitative research, the researcher was concerned with outcomes, specifically the outcomes of African American and Latino males participating in accelerated paired course programs. Also, consistent with the parameters of quantitative research, the researcher’s goal was to have the ability to generalize the study outcomes to the larger African American and Latino male college student populations. Finally, consistent with the goals of quantitative research, this study allowed the researcher test the theory, which was informed by Tinto’s student integration theory and expectancy-value theory, that increasing

student engagement through participation in an accelerated paired-course program would result in increased persistence among African American and Latino male developmental education students, with persistence defined by students' enrollment in the next course in their sequence for the Spring 2017 semester. Considering that the goals of the study were aligned with the objectives of quantitative research, the use of quantitative research was a justified approach to conducting the research study.

The quantitative study was conducted using a causal-comparative research design. Causal-comparative research design allows the researcher to compare two or more groups around an independent variable (also called a "cause") that has already occurred (Creswell, 2014). Characteristics of causal-comparative research include: (a) the researcher does not randomly assign participants to groups, (b) the groups that are used in the research are pre-existing or formed naturally, (c) one or more groups are exposed to a treatment or intervention and then compared to a control group that was not exposed to the same treatment or intervention, (d) the researcher does not manipulate the independent variable, and (e) the researcher examines the independent variable's effect on the dependent variable (Johnson, 2001). Although causal-comparative research is similar to correlational research, the two approaches differ in that correlational studies involve two or more independent variables and only one group, while causal-comparative studies involve two or more groups and one independent variable (Gay & Airasian, 2000). Also, causal-comparative research necessarily includes a categorical independent and/or categorical dependent variable, which allows for comparison between two groups, while correlational research will not include such categories, only quantifiable variables (Johnson, 2001). Then, while causal-comparative research studies have the goal of being able to make a strong suggestion of a cause-effect relationship existing between the variables that are

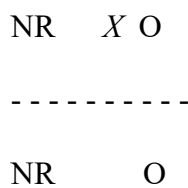


compared, correlational research seeks to determine the degree to which a relationship exists between two variables, and at most, suggest that causation might possibly exist (Johnson, 2001). According to Gall and colleagues (1996), “the causal-comparative method is the simplest quantitative approach to exploring cause-and-effect relationships between phenomena” (p. 380). Thus, the researcher used a causal-comparative method to explore the cause-and-effect relationship between participation in accelerated paired-course programs (cause) on the persistence of male students of color (effect).

The current research study is also considered to be quasi-experimental. Quasi-experimental design is one of three types of major research designs, which also include true experimental (or randomized) research and non-experimental research. In true research design, sample participants are randomly assigned to treatment and control groups (Reichardt, 2009). To be classified as a quasi-experimental design, one of the following is true about the research, there is both a treatment and control group, but sample participants are not randomly assigned to them, or there is more than one wave of measurement. In a non-experimental design, there is only one group used in the study, and there is only one wave of measurement (Reichardt, 2009). Because the current research study used both a treatment and control group, the study is classified as having a quasi-experimental design.

The quasi-experimental method that the researcher used is a post-test only nonequivalent group design, with “non-equivalent” referring to the non-random assignment of participants to comparable or similar groups (necessary to allow fair comparisons to be made between the two groups). Non-equivalent group design subjects research to an internal validity threat of selection effects. According to Reichardt (2009), a non-equivalent group design is one in which “different participants receive different treatments and the relative effectiveness of the treatment is assessed

by comparing the performances of the participants across the different groups” (p. 54). In the current research study, the participants who received participated in paired courses comprised the treatment group, and the participants who did not participate in paired courses comprised the control group. Because no pre-test was administered to either group, only a post-test, the method is a classified as a post-test only non-equivalent group design (Reichardt, 2009). The most common post-test only nonequivalent group design is shown below in Figure 1 (Reichardt, 2009).



*Figure 1.* Post-test only nonequivalent group design diagram.

In Figure 1, NR represents the non-random groups, X represents the treatment, and O represents the outcome. As noted, only one group received the treatment, while the other group did not.

### **Outcome Evaluation**

Typically, an independent samples t-test would be used to evaluate the outcomes of the study, as this test is commonly used when there is one independent, categorical variable consisting of two levels and one dependent variable (Seltman, 2015). However, the independent samples t-test cannot be used if the groups in the study are not randomly assigned. Thus, instead of an independent samples t-test, Fisher’s Exact Test was used to evaluate the outcomes in this research study.

Fisher’s Exact Test is a test of statistical significance that is used to analyze data when the independent variable consists of two categories and the dependent variable consists of two variables such that the table is a 2x2 contingency table (Freeman & Campbell, 2007). In this

research study, the one independent variable that was used was course type, and the two levels of this categorical variable were participation and non-participation. The one dependent variable that was used was persistence, which was determined based upon whether the participants re-enrolled in the next course in their sequence for the upcoming semester. The two levels of this categorical variable were persistence and non-persistence. In order to use Fisher's Exact Test, a study should follow certain conditions: (a) the marginal totals that appear in the observed table are fixed; (b) the null hypothesis of independence is true; (c) the data is collected at a discrete point in time; and (d) at least one of the frequency counts in the table are small (Freeman & Campbell, 2007).

Considered to be a hypothesis test, Fisher's Exact Test analyzes whether each row variable and column variable in a contingency table are independent and calculates the exact probability of the frequencies of the observed cell. The test is designed to let the researcher know whether a difference between groups on an independent variable is likely, considering the null hypothesis that there is no difference between the two groups. If a difference is found to exist between the two groups, however, Fisher's Exact Test does not provide any information about the size of the difference. According to Freeman and Campbell (2007), "the test is based upon calculating directly the probability of obtaining the results... if the null hypothesis is actually true, using all possible 2x2 tables that could have been observed, for the same row and column totals as the observed data" (p. 11). The analysis tests for the null hypothesis, or that there is no difference between the rows and the columns (i.e. the column variable and the row variable are independent, or that there is no association between the columns and the rows of the 2x2 table) (Freeman & Campbell, 2007).

When analysis is conducted, Fisher's Exact Test generates a p-value, and the p-value that is generated is accurate regardless of the size of the sample used in the study. This is a benefit that the test offers over the use of chi-square, because when sample sizes are small, chi-square results can be inaccurate. Researchers have found, however, that the test has low power, particularly when a standard p-value is used (Upton, 1992). For this reason, more researchers rely upon the use of the mid-P value, which can considerably increase the power of the test (Upton, 1992).

For the purposes of this research study, the differences between two independent groups were assessed. The treatment group consisted of African American and Latino male developmental education students participating in accelerated paired course programs, and the control group was comprised of African American and Latino male developmental education students taking standalone, unpaired courses. Students voluntarily self-selected into the treatment and the control groups through either enrolling or not enrolling in the accelerated paired-course programs. The study compared archival data, which consisted of LSC enrollment records for African American and Latino male students who registered for the Fall 2016 semester and the records of the same group of students who registered for the Spring 2016 semester.

## **Method**

### **Participants**

The participants in the research study were developmental education students enrolled within the Lone Star College (LSC) system of schools that offer accelerated programming for developmental education students. However, the needs assessment used only one branch within the LSC system as its study population: Lone Star College – Montgomery (LSC-M). Lone Star College, a publicly-funded two-year community college system located in Houston, Texas is the

largest higher learning educational institution in Houston and is rapidly becoming one of the fastest growing community colleges in the United States. Founded in 1972, the college's stated mission is "Lone Star College System provides comprehensive educational opportunities and programs to enrich lives" (Lone Star College, 2016, Our Mission), while its stated vision is "Lone Star College will be a model college globally recognized for achieving exceptional levels of success in student learning, student completion, gainful employment, equity and affordability" (Lone Star College, 2016, Our Vision). Students from the greater Houston area and surrounding regions attend Lone Star College to pursue Associate Degrees, industry certifications, and to complete basic coursework before transferring to other institutions of higher education. The total enrollment of the Lone Star College system, which was founded in 1972, was 95,000 students in 2016. The organization is comprised of six college branches, two university centers, eight additional centers, and 11 partnering independent school districts. Lone Star College reported an operating budget of \$347,662,000 for the 2016-2017 academic year (Lone Star College, 2016, At a Glance). The college operates on a semester system and offers summer and winter mini-mester sessions to students.

Driven by its vision to be recognized for exceptional levels of success in student completion, the Lone Star College system leads the Texas Completes effort, which is dedicated to making strides towards making dramatic increases in the rates of college completion among its students (Lone Star College, 2016). However, LSC, like most other community college systems, is still challenged by high rates of attrition, particularly among its developmental education and minority student populations. To address the lack of persistence of its developmental education students, the college has implemented programs in which it pairs college-level courses with developmental courses or other supplemental supports. LSC administrators believe that paired-

coursework learning communities will not only accelerate the time towards graduation, which researchers suggest fosters persistence, but it will increase students' levels of student engagement, which is also believed to be a major contributing factor towards student persistence. However, it was not known how effective the paired-coursework model of acceleration would be in fostering persistence and progress towards graduation of the school system's African American and Latino male developmental education students.

**Sample.** All African American and Latino male students enrolled in the LSC system and who have received developmental education referrals comprised the sample for the research study. The treatment group consisted of first and second-year African American and Latino male students who enrolled in any type of Integrated Reading and Writing II course pairing on any LSC campus (either mainstream 'paired with support' courses or paired courses). The control group consisted of first and second-year African American and Latino male students who enrolled in developmental English, Integrated Reading and Writing II, as standalone, non-accelerated courses on any LSC campus. Enrollment records for first and second-year African American and Latino males enrolled on LSC campuses for the Fall 2016 semester and for the Spring 2017 semester were forwarded to the researcher by the LSC system registrars and were used as archival data to be analyzed for the research study.

**Participant selection.** Convenience sampling, a non-random process of selecting participants for a research study, was used for the study. The researcher used convenience sampling because the study required the use of paired-course groups which were naturally formed on the LSC campuses rather than randomly assigning students to participate in these classroom groups (Creswell, 2014). The non-random assignment of participants to groups is also reason that the research study is considered quasi-experimental. According to Creswell (2014),

“in quasi-experiments, the investigator uses control and experimental groups but does not randomly assign participants to groups (e.g., they may be intact groups available to the researcher)” (p. 219). For the Fall 2016 semester, 40 African American and 80 Latino developmental education students were enrolled on LSC campuses.

While randomization is preferred in research studies, there are also advantages to using a non-random design such as convenience sampling. For example, the use of non-random assignment to groups allows the researcher to conduct research without disrupting the research setting, and the result is a reduction in any reactive effects that might occur as a result of the treatment, thus increasing the external validity of the research design (Dimitrov & Rumrill, 2003). Another benefit when using groups that are already intact as a study sample is that the researcher is also able to conduct the research on the participants without them being aware that they are a part of a research study, an advantage that is often not possible when the researcher has to randomly assign study participants to a group (Dimitrov & Rumrill, 2003). There are, however, disadvantages to the use of intact groups such as problems with internal validity that might occur as a result of interaction effects between selection and pretesting, history, and maturation. While randomizing the selection process to group will equalize the groups on characteristic differences, the use of intact groups threatens the validity of any differences that may appear between the groups because the differences could be attributed to differences in characteristics between the two groups rather than to the effects of the treatment (Dimitrov & Rumrill, 2003).

### **Instrumentation**

The researcher utilized archival data collected from the LSC system registrars as the sole source of data for the study, specifically enrollment records for the Fall 2016 and Spring 2017

semesters for African American and Latino male developmental education students across all of LSC's six campuses. No additional instrumentation was necessary for data collection for the research study.

## **Procedure**

The treatment selected for use in this research study was student participation in accelerated paired-course programs, an alternative to standalone, non-accelerated courses traditionally offered to developmental education students. When students perceive that it will take too long to complete their degree, they tend to lack persistence, and they drop out of school prior to the completion of a degree or before transferring to another educational institution. If LSC can effectively implement developmental education acceleration programs and encourage African American and Latino students to participate in them, this could be a key factor in fostering persistence in African American and Latino male students on the campus. In turn, LSC will benefit by seeing a reduction in the rate of attrition among its African American and Latino male students on the campus, an outcome that benefits all involved.

Accelerated course pairings were made available to all developmental education students. This acceleration option was offered through the college course schedule, and developmental education students were also made aware of the course acceleration opportunities by their advisors and counselors. As many developmental education students desired to participate in the accelerated programs were permitted to register for course pairings. Registration for course pairings continued until each section of the courses reached capacity (typically 20 students, although exceptions allowing up to two or three additional students have been made in the past with the professor's approval). Students who opted to register for the accelerated paired-course programs enrolled in the acceleration models that were available on their respective LSC



campuses. Students who did not opt to enroll in the accelerated paired-course programs enrolled in standalone, non-accelerated developmental “Integrated Reading and Writing II” courses. At the close of the Spring 2017 add/drop period, the researcher examined the enrollment records of the African American and Latino male developmental education students who participated in the accelerated paired-course programs and those who enrolled in standalone courses in Fall 2016 across each of the LSC campuses. Comparison of enrollment records for the two semesters allowed the researcher the ability to assess which students re-enrolled for the next course in the following semester, which researchers use as an indicator of persistence.

The timeline for the study proceeded as follows:

- August 29, 2016 – Classes began for the Fall 2016 semester, and students began their coursework. At the end of the add/drop period, when course rosters are considered by LSC to be official, the researcher requested enrollment rosters from the registrars of all six LSC campuses, and baseline characteristics of the treatment and control group were recorded at this time.
- January 17, 2017 – Classes began for the Spring 2017 semester. At the end of the add/drop period, when course rosters are considered by LSC to be official, the researcher requested enrollment rosters from the registrars of all six LSC campuses in order to determine which of the students re-enrolled for the Spring 2017 semester, an indication of persistence.

**Data collection.** This research study used archival student enrollment data provided to the researcher by each of the LSC registrars for the Fall 2016 and Spring 2017 semesters. The researcher used the Fall 2016 enrollment data to determine which African American and Latino male developmental education students enrolled in accelerated paired-course programs and

which enrolled in standalone, non-accelerated courses for the Fall 2016 semester. Then, the researcher used the Spring 2017 enrollment data to determine which African American and Latino male developmental education students persisted in their progress towards graduation by re-enrolling at LSC for the next course in their sequence for Spring 2017.

**Data analysis.** Once the data sets were received from each of the LSC registrars, the researcher combined the data into one comprehensive dataset using an Excel spreadsheet. The researcher used SPSS 18 statistical software to conduct Fisher's Exact Test, a statistical test that would test the null hypothesis for the study. When analyzing the data, the researcher used participation in a paired-course program as the independent variable and persistence as the dependent variable. No moderator variables were included in the analysis, as the researcher had no reason to believe that there would be any other factors that would moderate the hypothesized relationship between participation in an accelerated paired-course program and persistence.

**Summary diagrams.** Two graphical representations summarizing the research study are illustrated in Figure 2 and Figure 3. The treatment group is defined as the group of students who participate in accelerated paired-course programs. The control group is defined as students who participated in standalone, non-accelerated developmental courses.

<b>Research Question:</b> RQ1: What is the effect of participating in accelerated paired-course programs on the persistence of African American and Latino male developmental education community college students?	
<b>Independent Variable (IV):</b> Course Type (Taken in Fall 2016)	<b>Dependent Variable (DV):</b> Persistence (Defined by enrollment in next course in sequence for Spring 2017)
<b>Treatment Group</b> Participate in accelerated paired-course programs	<b>Hypothesis</b> H <sub>1</sub> : African American and Latino male developmental education students engaged in accelerated paired-course programs will demonstrate greater persistence than those enrolled in standalone, non-accelerated courses.
<b>Control Group</b> Participate in standalone, non-accelerated developmental courses	

*Figure 2.* Research summary matrix.

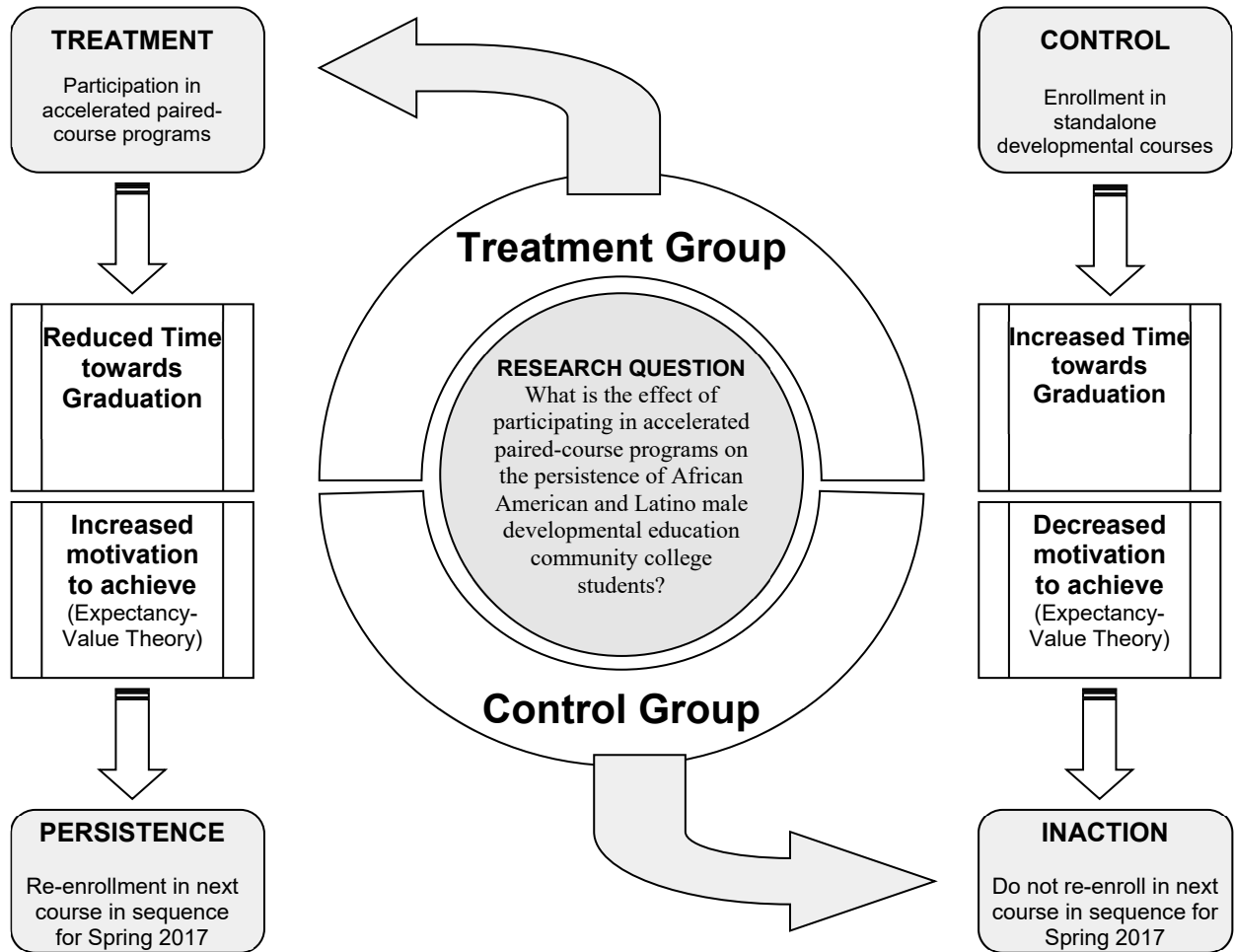


Figure 3. Research summary diagram.

## Summary

This quantitative research study was conducted using a causal-comparative method, which is a quasi-experimental post-test only non-equivalent group design. The purpose of this quantitative causal-comparative research study was to investigate how participation in an accelerated paired-course program can influence the persistence of African American and Latino male developmental education students to progress towards graduation. The treatment group consisted of students who participated in accelerated paired-course programs. The control group consisted of students who did not participate in accelerated paired-course programs but rather opted to take non-accelerated, standalone coursework. LSC developmental education students were not randomly assigned to either group; after reviewing the offerings in the course schedule and receiving guidance from their advisors and counselors, they voluntarily enrolled in their preferred course format (accelerated or non-accelerated).

The population for the research study was the developmental education student body of Lone Star College (LSC). First and second-year African American and Latino male developmental education students who enrolled in either format on any LSC campus in Fall 2016 comprised the sample for the research study. Convenience sampling was used for the research study because the researcher used naturally-formed groups rather than randomly assigning participants to groups, and this sampling method also allowed the researcher to conduct research without disrupting the research setting. No instrumentation was used for the study; data was collected from the registrars of the various LSC campuses in the form of student enrollment records for Fall 2016 and Spring 2017.

The action that was applied to the treatment group consisted of offering the students an opportunity to participate in an accelerated paired-course program. The types of paired-course

programs available to students, whether mainstream ‘paired with support’ or paired courses, varied by their respective campuses. After the Fall 2016 semester, the researcher obtained enrollment records for Spring 2017 to determine the persistence of students in the treatment and control groups, as persistence is defined in the research study as enrolling in the next course that follows in the student’s course sequence. The researcher used Fisher’s Exact Test to determine the effect of participation in accelerated paired-course programs on African American and Latino male student persistence.

The next chapter, Chapter 5, will present the results of the research study. The chapter will include a discussion of the results of the research study and an examination of the results in relation to theory and to past research literature, and study limitation. Finally, the researcher will offer conclusions based on the research results, implications for practice, and recommendations for future research.

## **Chapter 5: Findings and Discussion**

The lack of persistence and progress towards graduation among African American and Latino males has become a problematic issue under investigation at community colleges nationwide (David & Palmer, 2010). Recognizing that this challenge exists among their academically-unprepared students, many community colleges are experimenting with new and creative methods, like accelerated course pairings, to retain developmental education students in order to help them to persist and succeed (Bailey, 2009). Contrary to the traditional model of developmental education, which requires the completion of remedial-level coursework before taking college-level courses, accelerated paired coursework allows for the simultaneous completion of remedial-level courses and college-level courses, or the pairing of a developmental education course with some other support course, thus accelerating the time necessary to fulfill graduation requirements (Visher et al., 2012). This experimental method is designed to increase students' persistence in staying in school and progress towards graduation. However, it was not known how effective the paired-coursework model of acceleration would be in fostering persistence (defined in this study as enrolling in the next course that follows in the student's course sequence) and progress towards graduation of the LSC's African American and Latino male developmental education students. The purpose of this quantitative causal-comparative research study was to investigate how participation in an accelerated paired-course program could influence the persistence of African American and Latino male developmental education students to progress towards graduation.

This chapter presents the data process of implementation, followed by the results, conclusions and a discussion of the research study's conclusions. The researcher begins with a description of the intervention, followed by descriptive statistics. Following this, the researcher

discusses results of the data analysis. Finally, based on the results, the researcher presents several conclusions, followed by a discussion of the results, implications for practice, and recommendations for future research. The chapter concludes with a summary of the study results.

### **Process of Implementation**

The researcher investigated the persistence of more than 3,400 African American and Latino male developmental education students across six LSC campuses. Data was collected from the LSC system registrars, who forwarded enrollment records for first and second-year African American and Latino male students enrolled for the Fall 2016 and Spring 2017 semesters to the researcher.

### **Data Collection**

The researcher requested the 2016-2017 enrollment records from registrars for all developmental education students on Lone Star College campuses that offered course pairings of any type in Fall 2016. All six LSC campuses offered course pairings to their developmental education students and presented their registration records to the researcher: LSC-CF, LSC-K, LSC-M, LSC-NH, LSC-T, and LSC-UP. LSC-CF offered courses by pairing non-developmental college-level English Composition I (ENGL1301) with Integrated Reading and Writing II (ENGL0309) or Competency-based Advanced Reading and Writing (0119), which are remedial courses for developmental education students. LSC-K offered courses that paired non-developmental college-level English Composition I (ENGL1301) with remedial-level Competency-based Advanced Reading and Writing (0119). LSC-M offered the same pairings as were offered by LSC-K. LSC-NH offered non-developmental college-level English Composition I (ENGL1301) paired with Integrated Reading and Writing II (ENGL0309) and paired Integrated

Reading and Writing II (ENGL0309) with remedial-level courses like Supplemental Reading (0115), Supplemental Writing (0117), and Competency-based Advanced Reading and Writing (0119). LSC-T paired non-developmental college-level English Composition I (ENGL1301) with remedial-level Competency-based Advanced Reading and Writing (0119). Finally, LSC-UP also offered a course pairing of non-developmental college-level English Composition I (ENGL1301) with remedial-level Competency-based Advanced Reading and Writing (0119).

In the data analysis, concurrent enrollment in college-level English Composition I (ENGL1301) with Integrated Reading and Writing II (ENGL0309) was considered participation in a “paired course,” while concurrent enrollment in college-level English Composition I (ENGL1301) with remedial-level courses like Supplemental Reading (0115), Supplemental Writing (0117), or Competency-based Advanced Reading and Writing (0119) was considered participation in a mainstream ‘paired with support’ course. After all course-pairing information was received from the registrar, the researcher compiled all enrollment information from Fall 2016 and Spring 2017 into one comprehensive data set for analysis.

### **Descriptive Statistics**

The archival data provided to the researcher by the LSC registrars consisted of enrollment, course completion, and persistence records for all developmental education students enrolled in Fall 2016 on the six participating LSC campuses. Total developmental education student enrollment across all campuses was 13,968: LSC-CF reported 3,422 developmental education students (240 Black males and 672 Latino males); LSC-K reported 1,889 developmental education students (97 Black males and 309 Latino males); LSC-M reported 2,214 developmental education students (99 Black males and 299 Latino males); LSC-NH reported 3,395 developmental education students (462 Black males and 575 Latino males); LSC-



T reported 1,320 developmental education students (112 Black males and 148 Latino males); and LSC-UP reported 1,728 developmental education students (130 Black males and 296 Latino males).

In general, LSC's developmental education student enrollment is mostly Latino (6,103 students, or 43%) and African American (3,226 students, or 23%) and it is mostly female (8,874 students, or 62%) than male, with majority of the students enrolled at LSC-CF (3,422, or 25%) and LSC-NH (3,395, or 24%). The demographics of the developmental education students for each campus are presented in Table 16.

Table 16

*Demographics of Developmental Education Students on LSC Campuses Offering Paired Courses*

Ethnicity	Gender	LSC-CF	LSC-K	LSC-M	LSC-NH	LSC-T	LSC-UP	LSC System
White	Female	362	379	563	132	290	183	1,909
	Male	267	209	345	92	185	135	1,233
	Total	629	588	908	224	475	318	3,142
African American	Female	363	241	170	890	213	209	2,086
	Male	240	97	99	462	112	130	1,140
	Total	603	338	269	1,352	325	339	3,226
Latino	Female	1,039	503	554	953	264	491	3,804
	Male	672	309	299	575	148	296	2,299
	Total	1,711	812	853	1,528	412	787	6,103
Asian	Female	158	40	36	73	22	119	448
	Male	152	24	33	59	19	75	362
	Total	310	64	69	132	41	194	810
Amer-Ind	Female	8	1	3	2	8	2	24
	Male	2	4	2	2	2	1	13
	Total	10	5	5	4	10	3	37
Multiple	Female	51	26	50	41	23	36	227
	Male	46	19	17	34	11	8	135
	Total	97	45	67	75	34	44	362
Unknown	Female	34	22	30	55	12	23	176
	Male	28	15	13	25	11	20	112
	Total	62	37	43	80	23	43	288
Grand Total		3,422	1,889	2,214	3,395	1,320	1,728	13,968

Overall, approximately 94% of all students who were enrolled in any type of pairing, mainstream “paired with support” or paired course (the pairings used for the minority male treatment group) successfully completed their courses. Both groups of minority males had completion rates above the overall student population average, with 96.6% of African American males ( $n = 28$ ) completing their paired courses with a passing grade and 97.3% of Latino males ( $n = 71$ ) completing their paired courses with a passing grade. A summary of the overall

completion rates of all LSC developmental education students enrolled in mainstream ‘paired with support’ and paired courses is presented in Table 17.

Table 17

*Overall Completion Rates of LSC Developmental Education Students Enrolled in Paired Coursework (Mainstream ‘Paired with Support’ and Paired Course)*

Race/Ethnicity	Gender	Enrolled	Completion	
			#	%
White	Female	60	56	93.3%
	Male	39	35	89.7%
	Total	99	91	91.9%
Black	Female	27	25	92.6%
	Male	29	28	96.6%
	Total	56	53	94.6%
Latino	Female	117	114	97.4%
	Male	73	71	97.3%
	Total	190	185	97.4%
Asian	Female	17	16	94.1%
	Male	16	14	87.5%
	Total	33	30	90.9%
Amer-Ind	Female	1	1	100.0%
	Total	1	1	100.0%
Multiple	Female	7	6	85.7%
	Male	5	5	100.0%
	Total	12	11	91.7%
Unknown	Female	2	2	100.0%
	Total	2	2	100.0%
Grand Total		393	373	94.9%

In contrast, overall, approximately 86% of all students who were enrolled in Integrated Reading and Writing II as a standalone course (the course used for the minority male control group) successfully completed the course. The completion rates for Latino males enrolled in this unpaired course fell slightly below the average, as only 464 Latino male developmental

education students (83.5%) completed the course with a passing grade. However, their course completion rates were higher than those of African American male developmental education students (76.2%), as only 199 of these students finished the course with a passing grade. A summary of the overall completion rates of all LSC developmental education students enrolled in English 0309 as an unpaired course is presented in Table 18.

Table 18

*Overall Completion Rates of LSC Developmental Education Students Enrolled in ENGL0309 as a Standalone, Non-accelerated Course*

Race/Ethnicity	Gender	Enrolled	Completion	
			#	%
White	Female	326	282	86.5%
	Male	269	219	81.4%
	Unknown	1	1	100.0%
	Total	596	502	84.2%
African American	Female	442	373	84.4%
	Male	261	199	76.2%
	Total	703	572	81.4%
Latino	Female	820	741	90.4%
	Male	556	464	83.5%
	Total	1,376	1,205	87.6%
Asian	Female	112	104	92.9%
	Male	101	88	87.1%
	Total	213	192	90.1%
Amer-Ind	Female	4	4	100.0%
	Male	2	2	100.0%
	Total	6	6	100.0%
Multiple	Female	45	37	82.2%
	Male	30	26	86.7%
	Total	75	63	84.0%
Unknown	Female	34	30	88.2%
	Male	30	26	86.7%
	Total	64	56	87.5%
Grand Total		3,033	2,596	85.6%

The treatment group consisted of African American and Latino male students who participated in accelerated course pairings. There were two types of course pairings included in the treatment group: “paired course” students who participated in college-level English Composition I (ENGL1301) with Integrated Reading and Writing II (ENGL0309) and “mainstream ‘paired with support’ course” students who participated in college-level English Composition I (1301) paired with remedial-level courses like Supplemental Reading (0115), Supplemental Writing (0117), or Competency-based Advanced Reading and Writing (0119). The total number of minority male students who participated in mainstream ‘paired with support’ courses across the six LSC college campuses was 79 (23 African American males and 56 Latino males). The total number of minority male students who participated in paired courses across the six LSC college campuses was 23 (6 African American males and 17 Latino males). The total number of minority male LSC students that comprised the treatment group was  $n = 102$ . The demographic make-up of the treatment group, including both paired course and mainstream pairing students, is presented in Table 19.

Table 19

*Treatment Group – African American and Latino Male Students Enrolled in Paired Coursework (Mainstream ‘Paired with Support’ and Paired Course)*

	Paired with Support	Paired Course	Total
African American Males	23	6	29
Latino Males	56	17	73
African American & Latino Males (Treatment Group)	79	23	102

The control group consisted of African American and Latino male students who enrolled in Integrated Reading and Writing II (ENGL0309) as an unpaired, standalone, non-accelerated course. The total number of minority male students who participated in the standalone course across the six LSC college campuses was  $n = 817$  (261 African American males and 556 Latino males). The demographic make-up of the control group is presented in Table 20.

Table 20

*Control Group – African American and Latino Male Students Enrolled in ENGL0309 as an Unpaired, Standalone Course*

	Total
African American Males	261
Latino Males	556
African American & Latino Males (Control Group)	817

## Results

Results of the analysis indicated that overall, the majority of all LSC developmental education students (82%) who enrolled in paired courses of any type demonstrated persistence by successfully completing their Fall 2016 reading or writing courses with a passing grade and enrolling in the subsequent course in Spring 2017. In the paired course treatment group, the known students that demonstrated the greatest levels of persistence were Asian students (87.5%), closely followed by African American (85.7%) and Latino (85.7%) students. Among African Americans and Latinos in general, African American males persisted at the highest levels (100%), while African American females persisted at the lowest levels (75%). When considering only African American and Latino males, African American males persisted at higher levels (100%) than Latino males (82.4%).

Fisher's Exact Test was used to determine if there was an association between type of the group and persistence for the group of African American and Latino male developmental education students ( $n = 919$ ) taken as a whole. The analysis indicates that there was statically significant association between group type and persistence ( $p = 0.033$ ). The paired course group had the highest persistence rate of 87%, followed by mainstream 'paired with support' group (77.2%), and the control group (67.6%). A summary of these results is presented in Table 21.

Subgroups of Latino and African American male developmental education students were also analyzed independently. The within-group analysis indicates that there was an association between group and persistence ( $p = 0.015$ ) for African American students, but no such relationship held for Latino students ( $p = 0.474$ ). Even though the relationship for Latino students was not statistically significant, the paired course group of these students had the highest persistence rate of 82.4%. This finding is consistent with what was found for African American students in the paired course group for whom the persistence rate was 100%. A summary of these results is presented in Table 21.

Table 21

*Cross-tabulation of Persistence and Type of Group (Control vs. Two Types of Pairing)*

		Persisted to SP17		Total	%, Persisted	Fisher's Exact Test p-value
		Yes	No			
African American and Latino Males	Paired with Support	61	18	<b>79</b>	77.2%	$p = 0.033^*$
	Paired Course	20	3	<b>23</b>	87.0%	
	Control	552	265	<b>817</b>	67.6%	
<b>Total</b>		<b>633</b>	<b>286</b>	<b>919</b>	68.9%	
African American Males Only	Paired with Support	20	3	<b>23</b>	87.0%	$p = 0.015^*$
	Paired Course	6	0	<b>6</b>	100.0%	
	Control	167	94	<b>261</b>	64.0%	
<b>Total</b>		<b>193</b>	<b>97</b>	<b>290</b>	66.6%	
Latino Males Only	Paired with Support	41	15	<b>56</b>	73.2%	$p = 0.474$
	Paired Course	14	3	<b>17</b>	82.4%	
	Control	385	171	<b>556</b>	69.2%	
<b>Total</b>		<b>440</b>	<b>189</b>	<b>629</b>	70.0%	

*\*Significant at 0.05 level*

The analysis also revealed that the number of students in the paired course group was low; there were only 6 African American and 17 Latino students in this group. Because the number of students in this group was low, a decision was made to conduct the analysis by ignoring the type of pairing and considering only if student was in a paired class of any type or not. For the purposes of the following analysis, students from the mainstream ‘paired with support’ group and students from the paired course group were combined into a single group designated as “paired.” The analysis points to the conclusion that any type of pairing increases the chance of persistence for African American students to 89.7% from 64.0% ( $p = 0.006$ );



however, the same relationship does not hold for Latino students ( $p = 0.342$ ). A summary of these results is presented in Table 22.

Table 22

*Cross-tabulation of Persistence and Type of Group (Control vs. Any Type of Pairing)*

		Persisted to SP17		Total	%, Persisted	Fisher's Exact Test p-value
		Yes	No			
African American and Latino Males	Paired	81	21	<b>102</b>	79.4%	$p = 0.017^*$
	Control	552	265	<b>817</b>	67.6%	
	<b>Total</b>	<b>633</b>	<b>286</b>	<b>919</b>	68.9%	
African American Males Only	Paired	26	3	<b>29</b>	89.7%	$p = 0.006^*$
	Control	167	94	<b>261</b>	64.0%	
	<b>Total</b>	<b>193</b>	<b>97</b>	<b>290</b>	66.6%	
Latino Males Only	Paired	55	18	<b>73</b>	75.3%	$p = 0.342$
	Control	385	171	<b>556</b>	69.2%	
	<b>Total</b>	<b>440</b>	<b>189</b>	<b>629</b>	70.0%	

*\*Significant at 0.05 level*

Overall, the results of the analysis suggest that any type of course pairing may improve persistence. However, the fact that participation in paired course programs only benefitted African American males (not Latino males) suggests that additional research is needed to clarify this inconsistency. Additionally, paired courses appeared to be more beneficial than mainstream ‘paired with support’ courses. Yet, due to the small size of the paired course group ( $n = 17$ ), the validity and reliability of this conclusion might be considered questionable by some researchers.

## **Discussion**

The purpose of this quantitative causal-comparative research study was to investigate how participation in an accelerated paired-course program could influence the persistence of African American and Latino male developmental education students to progress towards graduation. In undertaking the current research study, the researcher sought to answer the following question:

RQ1. What is the effect of participating in accelerated paired-course programs on the persistence of African American and Latino male developmental education community college students?

The results of the analysis of this research question helped to address a gap in the literature by focusing on the direct impact of accelerated paired-course programs on the persistence of African American and Latino male developmental education students while answering the call for the quantitative, systematic evaluation of developmental education programs and how they affect the persistence of students of color. Fisher's Exact Test was utilized to analyze archival data of LSC student records for the Fall 2016 and Spring 2017 semesters to determine if participation in accelerated paired-course programs influenced the persistence of African American and Latino male developmental education students. The following represent the key findings drawn from the results of the analysis.

Despite study limitations, data analysis of the LSC developmental education student enrollment records for Fall 2016 and Spring 2017 produced the following general results pertaining to African American and Latino male developmental education students:

1. Any type of course pairing (mainstream ‘paired with support’ or paired course) increased persistence for African American students (from 64% to 89.7%), but the same relationship did not hold for Latino students.
2. Both paired course African Americans and paired course Latinos have higher rates of persistence compared to their counterparts who enrolled in mainstream ‘paired with support’ courses and those enrolled in unpaired courses.
3. When considering African American and Latino males as one group, the paired course group had the highest persistence rate (87%), followed by the mainstream ‘paired with support’ group (77.2%), and then the control group. However, there were only 23 African American and Latino males in the paired course group compared with 79 African American and Latino males in the mainstream ‘paired with support’ group, and this makes the result questionable.

Because the results of the analysis show that differences existed between African American and Latino males who participated in paired courses versus those who participated in ENGL0309 as a standalone, unpaired course, the null hypothesis can be rejected:

H<sub>0</sub>: There will be no difference between the persistence of African American and Latino male developmental education students engaged in accelerated paired-course programs and the persistence of those enrolled in standalone, non-accelerated courses.

Each of the study’s key findings is discussed in detail in the sections that follow.

### **Participation in Paired Courses Increases Collective Persistence among Minority Males**

When the researcher analyzed the effect of paired course participation among African American and Latino male students as a whole, results indicated that the group with the highest persistence was the paired course group, followed by the mainstream ‘paired with support’

group, and then the control group (students did not participate in any course pairings).

Additionally, paired course African American male students and paired course Latino male students demonstrated higher rates of persistence compared to any of their counterparts who enrolled in mainstream ‘paired with support’ courses and those enrolled in unpaired courses.

The research study’s finding that participation in paired courses can increase persistence among men of color overall is consistent with existing research, which has shown that accelerated course pairing (paired courses) fosters greater levels of persistence in developmental education students (Jaggars, et al., 2015), and this can reduce attrition (Bailey, 2009; Barbatis, 2010; Brock, 2010; Hodara & Jaggars, 2014). However, this finding challenges the existing research that shows men of color consistently falling behind their peers in persistence. According to the Center for Community College Student Engagement (2014), White and Asian students continue to outpace African American and Latino men of color. However, in contrast to the CCCSE’s findings, the current research study showed that African American and Latino males who participated in paired coursework outpaced their counterparts of other races and ethnicities. The finding also challenges the research of Hagedorn and Maxwell (2000), which found that the African American males fare worse of all students attending college in the U.S. The fact that the current study shows African American and Latino males in paired courses fared better than their Asian, White and other counter-parts points to the great potential of paired course participation in helping men of color to keep pace or excel above their community college peers.

Two factors threaten to challenge this finding and prevent it from being accepted without bias or reservation. First, it must be made clear, that these same positive effects of course pairings on persistence were not realized when African Americans and Latino males were examined as individual groups; the effect was only realized when the two groups were examined

in paired courses as a whole. Second, the sample sizes were relatively small: there were only 23 minority males in the paired course group as compared to 79 minority males in the mainstream ‘paired with support’ group. Although the statistical results of the analysis were significant and this finding can be validated by the research, the small sample size of the paired course group threatens the validity and reliability of the conclusion.

### **Participation in Paired Courses Affects African American & Latino Male Persistence Differently**

The results of the data analysis showed that any type of course pairing, whether mainstream ‘paired with support’ or paired courses, increases persistence for African American students, but the same relationship does not hold for Latino students. That participation in course pairing interventions increased the persistence of one group of minority males but not the other suggests that minority males are not a monolithic group and that participation in course pairings affects African American and Latino male persistence differently. Understanding the unique cultural differences that exist between these two groups will be critical for colleges to develop retention programs that are effective in increasing each group’s persistence. The finding is consistent with Pew Research (2016) findings that even with the various programs and resources available to minority students on community college campuses, Latino students still fall behind all other ethnic groups in their rates persisting to graduation from college. To add to the crisis, among Latinos, males continue to demonstrate significantly lower persistence towards graduation than their female counterparts (Saenz & Ponjuan, 2011).

This finding supports previous research surrounding persistence among African American and Latino males by highlighting the necessity to understand the unique needs of students of color to increase the effectiveness of the retention programs in which they participate.

The Center for Community College Student Engagement (2014) described African American and Latino males as being “among the least of all understood community college students” (p. 4) and explained that although it is clear among educators and researchers that disparities exist between these groups and their peers, few actually understand the reasons behind them. As a result, CCCSE (2014) encouraged colleges to focus on the unique needs of men of color and the ways in which they can serve them more effectively, while at the same time emphasizing diversity on the college campus, the cultural competency of the faculty and staff, and the implementation of strategies that reduce the threat of men of color being subject to stereotypes. Ultimately, the success of men of color on community college campuses will largely depend on the institution’s commitment to developing a comprehensive understanding of the backgrounds of African American and Latino men of color, including their educational background, cultural contexts, and challenges.

The finding is also consistent with the research findings of Saenz and Ponjuan (2011), who reported that although males of color tend to fare worse in educational attainment than other groups, some researchers deem that traditionally, African American males have specifically received greater amounts of attention and resources to boost levels of educational attainment than Latino males. This could potentially explain the disparity that exists between how participation in paired courses impacted the persistence of African American males versus Latino males, for if one group has been provided with additional attention and resources while another has not, the group that has received the additional attention and resources is likely to excel over the group which has not. To remedy such discrepancies, Saenz and Ponjuan (2011) promoted the need for the development of promising initiatives, on both a local and regional level, to target Latinos with the culture-specific attention and resources that is needed by this group.

## Unknown Factors Hinder Latino Males from Realizing Paired Course Benefits

Participation in course pairings helped to increase persistence among African American males but not Latino males. For course pairings to significantly increase the persistence of African American male developmental education students but not produce the same results for Latino male developmental education students suggests that some unknown factor is at work that hinders Latino males from realizing the same benefits. This unknown factor, which produces academic success for African American males but not for Latino males, could potentially be grounded in culture, background, socioeconomic status, or a number of other unique factors or needs. For example, existing literature indicates several factors that could potentially hinder the persistence of Latino male students, despite their participation in paired-course programs, like needing to work full time in order to help support their family (Pew Research, 2016), *familisimo*, which places a high priority on attachment to, protecting, and caring for one's immediate and extended family among Latino males (Saenz & Ponjuan, 2011), *machismo*, which is an ideology of cultural masculinity among Latinos that could hinder male students from asking for the academic help they need (Saenz et al., 2013), being undocumented Latino immigrants (Teranisha et al., 2011), the lower socioeconomic status of many Latino families (Saenz et al., 2013), limited financial resources that do not allow Latino students to re-enroll after a successful semester (Saenz et al., 2013), and speaking English as a second language, which might hinder their comprehension (Saenz et al., 2013). Additional research on how these and other factors affect the educational attainment of Latino males is of great importance if community colleges will be effective in their efforts to help these students persist.

The finding that unknown factors hinder Latino males from realizing the benefits of participation in paired courses can be used to support the research of Saenz and Ponjuan (2011),

who found that little is known about why Latino males fall academically behind other groups, and therefore, the factors that contribute to their low academic achievement remain unknown. Much research has been conducted on the success factors that contribute to the educational attainment of Latina females, but little research has been conducted to understand the success factors that contribute to the success of Latino males (Saenz & Ponjuan, 2011). Saenz et al. (2013) indicated that, despite the clear crisis of Latino males in higher education, researchers were still only beginning to focus their research specifically on Latino male community college students. These researchers support the need for additional research to discover the unknown factors that facilitate and/or hinder the effectiveness of Latino male participation in retention programs and to further understand the unique academic needs of Latino male students in higher education. Without additional research to discover the unknown factors that affect Latino males, community colleges will continue offering support programs and resources (like paired courses) that are ineffective in accomplishing their goals of increasing persistence and reducing attrition among this group.

### **Discussion of Findings of Student Integration and Expectancy-Value Theories**

Tinto's (2004) model of student integration is characterized by the premise that academics alone are not enough to foster the levels of persistence that students need to complete college and that social integration factors played a major role in helping them persist towards graduation. There are several implications for current study when discussed in light of this theory. First, the finding that African American male students demonstrated persistence after they participated in both mainstream 'paired with support' and paired courses suggests that both academic and social integration factors were active at a level great enough for them to persist. However, while African American male students persisted from one semester to the next, their



ability to persist long-term is unknown. Thus, while the researcher can conclude that academic and social factors had to be present for African American male students to persist from Fall 2016 to Spring 2017, it is unknown whether these same academic and social factors will be present at levels necessary for the students to ultimately persist and graduate from LSC.

Next, the finding that Latino males did not demonstrate the same persistence after participating in the same paired academic courses as their African American male counterparts suggests that persistence was possible among minority males on the LSC campuses, but some factor, either an academic or social one, was not present at a level great enough level for Latino males to persist. Tinto's model of student integration espouses that minority students (underrepresented populations on college campuses) do not socially integrate into college life as successfully as others (Tinto, 1993), and this tends to result in decreased persistence and educational attainment. According to this tenet of social integration theory, because these students were minority males, there is a great likelihood that one or more social factors related to their minority status likely contributed to the Latino males' lack of persistence. Tinto (1993) promotes that educational institutions bear the responsibility of removing cultural barriers so that these students can successfully connect to the college community, including other students in the community who share their race or ethnicity, and thereby increase their odds of retention through persistence and progress toward graduation. The suggestions that follow in the discussion of the study's conclusion provide some key recommendations for educational institutions to consider when seeking to advance such goals.

Eccles and Wigfield's (2000) expectancy-value theory espouses that several factors play a role in a developmental education student's belief that he or she can complete certain educational tasks, including ability beliefs, perceived difficulty of task, individual goals, and

affective memories. Based on the finding that developmental education African American males persisted after participation in paired courses while Latino males did not (when examined as independent groups), it is possible that expectancy-value theory was at work with the African American males in a different way than it was at work with the Latino male students.

For African American males, there is a possibility that expectancy-value theory worked to help them to persist in their academic endeavors. After the Fall 2016 semester in which the minority males were participating in paired courses, when the time came for Spring enrollment, African American males potentially held the belief that they could complete the educational tasks before them and held a hope and expectation that they could graduate one day, so they enrolled for the next course in their sequence offered in the following semester, Spring 2017. In contrast, for Latino males, there is a possibility that expectancy-value theory worked to hinder their academic endeavors. Based on their lack of persistence after participation in paired courses, it is possible that after the Fall 2016 semester, Latino male students might have felt that participation in the developmental education process and its associated costs made it difficult for them to ever expect to graduate, so they either disappeared, disengaged, or withdrew from school, choosing not to enroll in the next course in their sequence offered in the following semester. Based on the tenets of Eccles and Wigfield's (2000) theory, the potential exists that they might have become leavers who abandoned their college attainment pursuits, not because they could not handle course content, but because their participation in developmental education process and its associated costs caused them to abandon their beliefs that they could complete the educational tasks before them. However, since the reasons behind students' failure to persist to the Spring 2017 semester were not investigated in the current research study, this application of expectancy-value theory's impact on persistence or lack thereof remains speculative.

## **Conclusions and Recommendations for Stakeholders & Education Professionals**

While a lack of persistence and progress towards graduation is a concern for all community college students, it is of marked concern for African American and Latino students, particularly the male members of these cultural minority groups, who tend to leave community colleges before certificate or degree completion (Buchmann & DiPrete, 2006; Davis & Palmer, 2010). In the current research study, the researcher sought to examine whether participation in paired coursework learning communities could facilitate persistence and progress towards graduation among African American and Latino male developmental education students. While some literature exists about the benefits of acceleration programs on student persistence in general, there is limited research about how accelerated paired-course programs specifically affect the persistence of African American and Latino developmental education students on community college campuses. The findings of the current study serve to make a valuable contribution to this body of literature by helping higher education administrators and practitioners understand how to more effectively serve their African American and Latino male developmental education students, increasing this population's persistence while decreasing the institution's attrition.

The ultimate goal of the current research study was to provide insights that will help community colleges develop more effective paired coursework acceleration programs for African American and Latino male developmental education students – programs that will actually result in helping this population of students to persist and graduate from their institutions. Higher education leaders and administrators committed to achieving equity for these students on their community college campuses are encouraged to consider the following conclusions and recommendations for accomplishing this goal.

### **Focus on Culture-based Equity when Addressing Minority Male Persistence**

Because the study results indicated that participation in paired-course programs can impact the persistence of African American and Latino males differently, community colleges should be intentional about not addressing the two populations as a monolithic group when designing programs designed to increase persistence among minority males. African Americans and Latinos are commonly grouped together into one group that is referred to as “minorities”; however, the results of the data analysis show that for the purposes of designing effective interventions to increase persistence, the unique cultural identity of the students must be taken into consideration; persistence interventions that work for one group might not work for the other. Rather than focusing on equality, or providing each of the minority male groups with the exact same programs and resources to increase their persistence collectively, educational administrators should focus on equity by providing each respective group with the unique programs and resources that it needs to be successful and persist towards graduation.

For instance, Gladwell’s (2000) research was focused *specifically* on how to improve the retention of African Americans as minority students attending predominantly White colleges. Among other recommendations, Gladwell (2000) proposed that support programs be designed specifically for the needs of African American students, that a program be developed in which counselors would be trained to address the specific needs of African American students, and allowing students to play a role in the development of these programs that would be designed to meet their specific cultural needs. Similarly, Saenz et al. (2013) offered recommendations *specifically* designed to increase the educational attainment of Latino males. These suggestions include the following: (a) re-framing programs and services with men in mind (including the cultural values out of which sub-groups like Latino men tend to operate), (b) integrated career

and academic pathways (that combine classroom learning with on-site job opportunities), and (c) messaging to Latino males and their families (to leverage the collective support that exists in these communities to encourage their males to remain in school, overcome challenges, succeed academically, and graduate). Such culture-specific recommendations as these should be utilized to develop programs designed to identify the unique needs of African American and Latino males and then address these needs so that each group might also receive the maximum benefit of participation in paired-courses and other programs developed to increase persistence.

### **Seek to Identify and Address what Hinders Latino Males from Realizing the Benefits of Participation in Paired Courses**

In light of the finding that African American male students showed increased persistence after participating in paired courses and mainstream ‘paired with support’ courses while their Latino male counterparts did not, educational administrators committed to increasing the persistence and academic success of Latino male developmental education students must seek to identify what specific unknown factors hinder Latino male students from benefiting, to a significant degree, from participation in accelerated course pairings. Once administrators identify these unique cultural needs, they should provide Latino male students with the additional cultural supports that they need in order to reap the same benefits from participation in course pairings that their African American male counterparts experience.

Existing research (Saenz & Ponjuan, 2011; Saenz et al., 2013; Teranishi et al., 2011) suggests that the challenges that hinder Latino males from successfully persisting on college campuses have less to do with their intellectual academic abilities and more to do with their cultural needs not being met in such a way that they feel comfortable navigating their academic environment, integrating socially, and taking advantage of the support programs and resources

that are often offered on college campuses to empower them for academic success. In light of this, consistent with the suggestion of Saenz and Ponjuan (2011), the researcher recommends that educational institutions seeking to increase the persistence of Latino males focus their discovery efforts on how to link academics with social developmental supports that can utilize culturally-sensitive methods to help them excel academically. One particular source that should not be overlooked by community colleges as they seek to increase their understanding of Latino students academic and social needs are “Hispanic Serving Institutions” (HSIs), which are designed to meet the unique academic and cultural needs of Latino students and have been shown to resulting in higher persistence towards graduation (Nunez et al., 2011). These institutions, specifically designed to meet the needs of Latinos (in the same way that Historically Black Colleges and Universities, or HBCUs do for African Americans), significantly decrease the risk of Latino students leaving college before they attain credentials, as compared to the numbers of Latino students who leave community colleges before graduation (Nunez et al., 2011). The effectiveness of HSIs in working with the Latino male population, evidenced by consistently high persistence towards graduation, makes these educational institutions a proven resource from which community colleges can glean a great amount of understanding.

### **Offer Paired Courses over Mainstream ‘Paired with Support’ Courses to Increase Persistence**

When examined as a collective group, paired course African American and paired course Latino male students demonstrated higher rates of persistence compared to their counterparts who enrolled in mainstream ‘paired with support’ courses and those enrolled in unpaired courses. This finding suggests that if community college educational administrators are faced with a decision of which type of course pairing will increase the academic success of African American

and Latino male students over another, the best decision would be to offer paired courses (pairing a developmental course with its non-developmental course counterpart, college-level English) over mainstream ‘paired with support’ course (pairing a college-level English with a supplemental success course).

Like many other community colleges, Lone Star College is under a legislative mandate to implement the use of course pairings to increase the persistence of their developmental education students. The implementation of this new educational policy will undoubtedly require a greater amount of financial, human, administrative, space, and other resources at the expense of the community college. While the LSC system possesses abundant institutional resources to simultaneously offer various types of course pairings to its students, other colleges with more limited resources might be pressed to choose between offering either paired-courses or mainstream ‘paired with support’ course. This is a particularly relevant conclusion because if a college is implementing the concept of course pairing as an entirely new offering and must choose between which of the two types of pairings, it will offer to its students first to maximize its resources to the fullest extent. When selecting the type of paired course to offer, this finding provides substantive evidence upon which such a decision can be made, one that is grounded research rather than forcing administrators to speculate which type of pairing might be best or to randomly select a paired-course alternative.

### **Proposed Application of Study Findings**

Based on the findings and conclusions of the current research study, the researcher proposes the development of the following intervention on a community college campus that is designed to increase the persistence of African American and Latino male developmental education students. The proposed intervention would consist of both academic and social

components. Academically, the program would require African American and Latino male students to participate in paired courses, which would allow them to simultaneously enroll in a developmental education-level course with college-level English, in an effort to accelerate the completion of all course requirements and reduce time to graduation. Participation in course pairings would be required for these students until all of their developmental education courses are completed.

At the end of each course or semester, African American and Latino male students would be required to complete an exit survey. The survey would be designed to evaluate student levels of expectancy-value, that is, their levels of hopefulness in their academic progress, their belief that they were capable of graduating, and that the energy, effort, resources that they would have to pay to attain their academic goals was still deemed worth the cost. Based upon the results of the survey, if the student's expectancy-value survey score falls below a certain threshold, the student would be required to visit a same-race male program counselor. The counselor would then intervene with motivation, encouragement, progress-toward-graduation updates, or referrals to financial resource providers, tutors, and any other assistance that might increase the student's likelihood to persist.

Socially, African American and Latino males would be enrolled in one of two distinct programs that would cater to their unique cultural needs; they would not be grouped into a one collective program designed simply for "minority male developmental education students." Groups would meet at a fixed day and time each week in a location on campus with same-race male counselors who will facilitate the group meetings, to include rap sessions on culturally-relevant topics of interests to students, question and answer sessions, education about helpful resources, instruction on how to navigate campus resources, games, outings, celebrations of



academic progress and campus accomplishments, and other topics that the counselors deem culturally relevant and necessary to foster persistence. While the male students would automatically be enrolled in one of the social programs, attendance at the weekly group events would be encouraged but not mandatory. If students need to access their program counselors at any other time, these individuals will be available via phone, with at least one counselor on call and accessible to students 24 hours a day.

By combining paired courses (shown to increase persistence) with culture-specific components of Tinto's (2004) model of student integration, both of which are necessary to help students succeed both academically and socially on community colleges on which they are underrepresented. Additionally, the proposed intervention integrates tenets of Eccles and Wigfield's (2000) expectancy-value theory through requiring an ongoing evaluation of students' expectations to graduate and of their value for what it will cost them to persist towards graduation, providing intervention when necessary. This proposed intervention, based on research outcomes, carries a great potential to increase persistence among African American and Latino male developmental education students, which will result in decreased attrition on community college campuses.

### **Study Limitations**

This research study is subject to several limitations. The primary limitation of this research study is its focus on a single college system: developmental education students at Lone Star College branches. As a result, the results of the research may not be generalizable to students in other college contexts. Second, the researcher is unable to control for any unobserved factors that might exist between students enrolled in accelerated paired-course programs and those enrolled in non-accelerated courses that might predispose students to enroll in one course

format as opposed to the other. Then, the study only allows the researcher to estimate how participation in an accelerated paired-course program will impact students who have a similar probability of choosing the accelerated paired-course program over the non-accelerated course format. Therefore, the study is unable to estimate how participation in accelerated paired-course programs would impact students who are highly unlikely to opt into participating in these accelerated programs, as it is possible that they could have external jobs with busy schedules that do not allow them the additional time required for participation, they could have children or other responsibilities that do not allow for the time or flexibility in their schedule, they might not attend school full-time, they may already feel a sense of detachment from the school, etc.

Next, one of the greatest challenges when discussing this conclusion in light of the literature is that the vast majority of researchers consistently characterize persistence in terms of students persisting to graduation. For example, like most other researchers, Brock (2010) measures student persistence based on a student's completion of a college degree or certificate and on a student's continual enrollment in college. However, persistence in the current research study was examined with a narrower scope: completing a course in one semester and enrolling in the subsequent course offering the next semester. Thus, while the current research study shows that participation in paired courses can increase the persistence of minority males, its claims are limited to a definition of persistence from one semester to the next rather than persistence to graduation. Considering this, the study is limited in its generalizability to ultimate student persistence, although the reality that participation in paired courses increases persistence among minority males stands as a significant finding.

Finally, because the study is quasi-experimental, the interpretation of the results may be subject to scrutiny for methodological reasons. According to Kirk (2009), "in the absence of

random assignment, it is difficult to rule out all variables other than the independent variable as explanations for an observed result” (p. 24). Thus, the research design of the study limits the validity of the interpretations made by the researcher after analysis of the results.

### **Recommendations for Future Research**

Future researchers interested in investigating the problem of practice are encouraged to replicate the current research study utilizing a larger population of African American and Latino male developmental education community college students (perhaps regionally or on a state-wide level), as one of the main limitations to the current study is the low sample size among the non-mainstream paired course group. Additionally, it is recommended that future researchers triangulate their data to include the collection of qualitative data about students’ expectancy-values, which will be able to provide increased understanding and deeper insight into reasons behind student persistence or lack thereof. Finally, future researchers would be advised to consider conducting a follow-up investigation on the current research study that includes examining the minority male LSC population used in the current study to determine if they continued to persist throughout their academic journey and ultimately graduated from LSC.

### **Summary**

In this chapter, the researcher presented the data analysis and results for the quantitative causal-comparative research study, which was conducted for the purpose of investigating how participation in an accelerated paired-course program could influence the persistence of African American and Latino male developmental education students to progress towards graduation. Data on developmental education student enrollment was provided to the researcher by registrars at LSC campuses that offered any type of course pairing, and all of the data received was compiled by the researcher into one comprehensive data set. Black and Latino students (9,329)

represented 67% of the total developmental education student enrollment across all campuses, with Black males (1,140) comprising 8% of the enrollment and Latino males (2,299) comprising 17% of the enrollment. The control group (African American and Latino males enrolled in ENGL0309 as a standalone, unpaired course) consisted of 261 African American males and 556 Latino males for an  $n = 817$ . The treatment group (African American and Latino males enrolled in ENGL0309 paired with any other English or mainstream support course) consisted of 29 African American males and 73 Latino males for an  $n = 102$ .

The research question guiding the study was: What is the effect of participating in accelerated paired-course programs on the persistence of African American and Latino male developmental education community college students? Data analysis results suggested that any type of course pairing (mainstream ‘paired with support’ or paired course) increased persistence for African American students (from 64% to 89.7%), but the same relationship did not hold for Latino students. Next, both paired course African Americans and paired course Latinos had higher rates of persistence compared to their counterparts who enrolled in mainstream ‘paired with support’ courses and those enrolled in unpaired courses. Finally, when considering African American and Latino males as one group, the paired course group had the highest persistence rate (87%), followed by the mainstream ‘paired with support’ group (77.2%), and then the control group. These findings both supported and contradicted some of the current research literature surrounding persistence among minority male community college students.

Three key findings were discussed: (a) participation in paired courses increases collective persistence among minority males, (b) participation in paired courses affects African American and Latino male persistence differently, and (c) unknown factors hinder Latino males from realizing paired course benefits. The study’s key findings were also discussed in light of the

theoretical foundation of the study, Tinto's (2004) model of student integration and Eccles and Wigfield's expectancy value theory (1993). Based on the study's key findings, the following conclusions and recommendations were made to stakeholders and education professionals: (a) focus on culture-based equity when addressing minority male persistence, (b) seek to identify and address what hinders Latino males from realizing the benefits of participation in paired courses, and (c) offer paired courses over mainstream 'paired with support' courses to increase persistence. The researcher also offered a proposed application of the study's findings to the problem of practice by suggesting an intervention for African American and Latino male community college students that integrates paired courses, a social integration program, and checkpoint measures of students' expectancy-values so that interventions can be made when necessary.

Study limitations included the following: (a) a focus on a single college system, which limits generalizability, (b) the inability to control for unobserved factors, (c) the researcher's inability to estimate how participation in paired courses by students unlikely to voluntarily take the courses affects persistence, (d) the limitations on generalizability as a result of a more narrow definition of persistence, and (e) the quasi-experimental nature of the study which subjects it to methodological scrutiny. Recommendations for future research were presented and included expanding the scope of the study to include a larger sample size and triangulating data collection in order to provide deeper insight into reasons why students did or did not persist.

## References

- Achieving the Dream: Community college count. (2006). Increasing student success at community colleges: Institutional change in achieving the dream: Community colleges count. *Achieving the Dream*. Retrieved from [http://www.achievingthedream.org/\\_images/\\_index03/Framing-Paper-July-2006-final.pdf](http://www.achievingthedream.org/_images/_index03/Framing-Paper-July-2006-final.pdf)
- ACT. (2012). The condition of college & career readiness, 2010. *ACT Online*. Retrieved from <http://www.act.org/research/policymakers/cccr10/index.html>
- Agresti, A. (2013). *Categorical Data Analysis*. Hoboken, NJ: John Wiley & Sons.
- Allen, I. & Lester, S. (2012). The impact of a college survival skills course and a success coach on retention and academic performance. *Journal of Career and Technical Education*, 27(1), 8-14.
- American Council on Education. (2009). *Minorities in higher education 2009: Twenty-third status report*. Washington, DC: Author.
- Arendale, D. (2000). Strategic planning of the National Association for Developmental Education. *Journal of Developmental Education*, 23(3), 2-10.
- Ashara, H. & Skenes, R. (1993). Can Tinto's student departure model be applied to nontraditional students? *Adult Education Quarterly*, 43(2), 90-100.
- Astin, A. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel*, 25(3), 297-308.
- Astin, A. (1993). *What matters in college?* San Francisco, CA: Jossey-Bass.
- Attewell, P., Lavin, D., Domina, T. & Levey, T. (2006). New evidence on college remediation. *Journal of Higher Education*, 77(5), 886-924.
- Bailey, T. & Morest, V. (2006). The community college equity agenda in the twenty-first

- century: Moving from access to achievement. In T. Bailey & V. Morest (Eds.), *Defending the community college equity agenda* (pp. 246-270). Baltimore, MD: The Johns Hopkins University Press.
- Bailey, T. (2009). Challenge and opportunity: Rethinking the role and function of developmental education in community college. *New Directions for Community Colleges*, 145, 11-30.
- Bailey, T. Jeong, D., & Cho, S. (2010). Referral, enrollment, and completion in developmental education sequences in community colleges. *Economics of Education Review*, 29, 255-270. doi:10.1016/j.econedurev.2009.09.002
- Bailey, T., Jenkins, D., & Leinback, T. (2005). Community college low-income and minority student completion study: Descriptive statistics from the 1992 high school cohort. Columbia University, NY: Columbia University Community College Research Center.
- Barbatis, P. (2010). Underprepared, ethnically diverse community college students: Factors contributing to persistence. *Journal of Developmental Education*, 33(3), 14-24.
- Barnett, E. (2011). Validation experiences and persistence among community college students. *The Review of Higher Education*, 34(2), 193-230. Retrieved from <https://www.middlesex.mass.edu/deanofstudents/downloads/studvalstudy.pdf>
- Bill and Melinda Gates Foundation. (2010). *Foundation giving \$110 million to transform remedial education*. Press release. April 20, 2010. Seattle. <http://www.gatesfoundation.org/press-releases/Pages/new-ideas-for-remedial-education-in-community-college-100420.aspx>
- Boden, K. (2011). Perceived academic preparedness of first-generation Latino college students. *Journal of Hispanic Higher Education*, 10(2), 96-106.
- Bound, J., Lovenheim, M., & Turner, S. (2010). Why have college completion rates declined?

- An analysis of changing student preparation and collegiate resources. *American Economic Journal: Applied Economics*, 2, 129-157.
- Boylan, H. (1999). Exploring alternatives to remediation. *Journal of Developmental Education*, 22(3), 2-10.
- Bragg, D. (2001). Community college access, mission, and outcomes: Considering intriguing intersections and challenges. *Peabody Journal of Education*, 76(1), 93-116.
- Breneman, D. & Harlow, W. (1998). *Remedial education: Costs and consequences*. Paper presented at the Remediation in Higher Education: A Symposium, Washington, D.C., July 1, 1998.
- Brock, T. (2010). Young adults and higher education: Barriers and breakthroughs to success. *The Future of Children*, 20(1), 109-132.
- Brothen, T. & Wambach, C. (2004). Refocusing developmental education. *Journal of Developmental Education*, 28(2), 16-23.
- Buchmann, C. & DiPrete, T. (2006). The growing female advantage in college completion: The role of family background and academic achievement. *American Sociological Review*, 71, 515-541.
- Burns, K. (2010). Community college student success variables: A review of the literature. *Community College Enterprise*, 16(2), 33-61.
- Byrd, K. & MacDonald, G. (2005) Defining college readiness from the inside out: First-generation student perspectives. *Community College Review*, 33(1) 22-47.
- Center for Community College Student Engagement (CCCSE). (2014). *Aspirations to achievement: Men of color and community colleges (A special report from the Center for Community College Student Engagement)*. Austin, TX: The University of Texas at



- Austin, Program in Higher Education Leadership. Retrieved from  
[https://www.ccsse.org/docs/MoC\\_Special\\_Report.pdf](https://www.ccsse.org/docs/MoC_Special_Report.pdf)
- Community College Survey of Student Engagement. (2005). Engaging student, challenging the odds: 2005 findings of the community college survey of student engagement. Austin, TX: Community College Leadership Program, The University of Texas at Austin. Retrieved from  
[https://www.ccsse.org/center/resources/docs/publications/2005\\_National\\_Report.pdf](https://www.ccsse.org/center/resources/docs/publications/2005_National_Report.pdf)
- Concannon, J., Serota, S., Fitzpatrick, M., & Brown, P. (2018). How interests, self-efficacy, and self-regulation impacted six undergraduate pre-engineering students' persistence. *European Journal of Engineering Education (online)*.  
doi: 10.1080/03043797.2017.1422695
- Condron, D., & Roscigno, V. (2003). Disparities within: Unequal spending and achievement in an urban school district. *Sociology of Education*, 76, 18-36.
- Cornwell, B., Laumann, E., & Schumm, L. (2008). The social connectedness of older adults: A national profile. *American Sociological Review*, 73, 185–203.
- Creighton, L. (2007). Factors affecting the graduation rates of university students from underrepresented populations. *International Electronic Journal for Leadership in Learning*, 11(7).
- Creswell, J. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4<sup>th</sup> ed.). Thousand Oaks, CA: Sage.
- Crisp, G. & Nora, A. (2010). Latino student success: Factors influencing the persistence and transfer decisions of Latino community college students enrolled in special education. *Research in Higher Education*, 51(2), 175-194.

- DaDeppo, L. (2009). Integration factors related to the academic success and intent to persist of college students with learning disabilities. *Learning Disabilities Research & Practice*, 24(3), 122-131.
- Darling-Hammond, L. (2005). New standards and old inequalities: School reform and the education of African American students. In J.E. King (Ed.), *Black education: A transformative research and action agenda for the new century* (pp. 197-223). Mahwah, NJ: Erlbaum.
- Davis, R. & Palmer, R. (2010). *The role of postsecondary remediation for African American students: A review of research*. The Journal of Negro Education, 79(4), 503-520.
- Deil-Amen, R. & Rosenbaum, J. (2002). The unintended consequences of stigma-free remediation. *Sociology of Education*, 75(3), 249-268.
- Demetriou, C. & Schmitz-Sciborski, A. (2011). Integration, motivation, strengths and optimism: Retention theories past, present and future. In R. Hayes (Ed.), *Proceedings of the 7<sup>th</sup> National Symposium on Student Retention, 2011, Charleston*. (pp. 300-312). Norman, OK: The University of Oklahoma.
- Dimitrov, D. & Rumrill, P. (2003). Pretest-posttest designs and measurement of change. *Work*, 20(2), 159-65.
- Dinsmore, D., Alexander, P., & Loughlin, S. (2008). Focusing the conceptual lens on metacognition, self-regulation, and self-regulated learning. *Educational Psychology Review*, 20, 391-409.
- Dixon Rayle, A., Robinson Kurpius, S., & Arredondo, P. (2005). Educational self-efficacy of college women: Implications for theory, research, and practice. *Journal of Counseling & Development*, 83, 361-366.

- Dukakis, K., Duong, N. Ruiz de Velasco, J., & Henderson, J. (2014). *College access and completion among boys and young men of color: Literature review of promising practices*. John W. Gardner Center for Youth and Their Communities. Retrieved from <https://gardnercenter.stanford.edu/sites/default/files/College%20Access%20and%20Completion%20among%20BMOC%20Literature%20Review.pdf>
- Edgecombe, N. (2011). *Accelerating the academic achievement of students referred to developmental education* (CCRC Working Paper No. 30, Assessment of Evidence Series). New York, NY: Community College Research Center, Teachers College, Columbia University.
- Flowers, L. & Pascarella, E. (2003). Cognitive effects of college: Differences between African-American and Caucasian students. *Research in Higher Education*, 44, 21-49.
- Flowers, L. (2004). Retaining African American students in higher education: An integrative review. *Journal of College Student Retention: Research, Theory, & Practice*, 6(1), 22-38.
- Fong, C. & Asera, R. (2010). *Psychosocial theories to inform a new generation of student support structures for learning mathematics*. Stanford, CA: The Carnegie Foundation for the Advancement of Teaching.
- Fordham, S., & Ogbu, J. (1986). Black students' school success: Coping with the burden of acting White. *Urban Review*, 18, 1-31.
- Fowler, P. & Boylan, H. (2010). Increasing student success and retention: A multidimensional approach. *Journal of Developmental Education*, 34(2), 2-10.
- Freeman, J. & Campbell, M. (2007). *The analysis of categorical data: Fisher's exact test*. Scope, June, 2007, 11-12. Retrieved from [http://www.sheffield.ac.uk/polopoly\\_fs/1.43998!/file/tutorial-9-fishers.pdf](http://www.sheffield.ac.uk/polopoly_fs/1.43998!/file/tutorial-9-fishers.pdf)

- Gall, M. Borg, W. & Gall, J. (1996). *Educational research: An introduction* (6<sup>th</sup> ed.). White Plains, NY: Longman.
- Gay, L. & Airasian, P. (2000). *Educational research: Competencies for analysis and application* (6<sup>th</sup> ed.). Englewood Cliffs, NJ: Prentice-Hall.
- Gilardi, S. & Gulgielmetti, C. (2011). University life of non-traditional students: Engagement styles and impact on attrition. *Journal of Higher Education*, 82(1), 33-53.
- Goudas, A. & Boylan, H. (2012). Addressing flawed research in developmental education. *Journal of Developmental Education*, 36(1), 2-13.
- Grubb, W. (1999). *Honored but invisible: An inside look at teaching in the community colleges*. New York, NY: Routledge.
- Grubb, W. (2013). *Basic skills education in community colleges: Inside and outside of classrooms*. New York, NY: Routledge.
- Hagedorn, L. & Maxwell, W. (2001). Correlates of retention for African-American males in community colleges. *Journal of College Student Retention*, 3(3), 243-263.
- Hagedorn, L., Maxwell, W., & Hampton, P. (2002). Correlates of retention for African-American males in community colleges. *Journal of College Student Retention: Research, Theory, & Practice*, 3(1), 216-225.
- Hern, K. (2011). *Accelerated English at Chabot College: A synthesis of key findings*. Hayward, CA: The California Acceleration Project.
- Hern, K. (2012). Acceleration across California: Shorter pathways in developmental English and math. *Change: The Magazine of Higher Learning*, 44(3), 60-68.
- Hodara, M. & Jaggars, S. (2014). An examination of the impact of accelerating community

- college students' progression through developmental education. *The Journal of Higher Education*, 85(2), 246-276.
- Holmquist, C., Gable, R., & Billups, F. (2013). The relationship between self-efficacy and persistence in adult remedial education. *NERA Conference Proceedings 2013*. Paper 17. Retrieved from [http://digitalcommons.uconn.edu/cgi/viewcontent.cgi?article=1016&context=nera\\_2013](http://digitalcommons.uconn.edu/cgi/viewcontent.cgi?article=1016&context=nera_2013)
- Hughes, R. & Pace, C. (2004). Using the NSSE to study student retention and withdrawal. *Assessment Update – Progress, Trends, and Practices in Higher Education*, 15(4). Integrated Postsecondary Education Data System (IPEDS). (2003). *Table 24a. Average graduation and transfer-out rates for full-time, first-time students in Title IV institutions in 2000, initially enrolled in less than 4-year, by sector and state: 200-Continued*. Retrieved from [http://nces.ed.gov/das/library/tables\\_listings/showTable2005.asp?popup=true&tableID=2495&rt](http://nces.ed.gov/das/library/tables_listings/showTable2005.asp?popup=true&tableID=2495&rt)
- Jackson, J. (2007). A systematic analysis of the African American educational pipeline to inform research, policy, and practice. In J. Jackson (Ed.), *Strengthening the educational pipelines for African Americans: Informing policy and practice* (pp. 1-14). New York, NY: State University of New York Press.
- Jacobson, L. & Mokher, C. (2009). Pathways to boosting earnings of low-income students by increasing their educational attainment. Prepared for the Bill & Melinda Gates Foundation by the Hudson Institute and CNA. Retrieved from <http://www.hudson.org/files/publications/Gates%2001-07.pdf>
- Jaggars, S., Hodara, M. Cho, S., & Xu, Di. (2015). Three accelerated developmental education

- programs: Features, student outcomes, and implications. *Community College Review*, 43(1), 3-26.
- Jdaitawi, M. (2015). Social connectedness, academic, non-academic behaviors related to self-regulation among university students in Saudi Arabia. *International Education Studies*, 8(2), 84-100.
- Johnson, B. (2001). Toward a new classification of nonexperimental quantitative research. *Educational Researcher*, 30(2), 3-13.
- Karp, M., O’Gara, L., & Hughes, K. (2010). Do support services at community colleges encourage student success or reproduce disadvantage: An exploratory study of students in two year colleges. *Journal of College Student Retention*, 12(1), 69-86.
- Kirk, R. (2009). Experimental design. In R. Millsap & A. Maydeu-Olivares (Eds.), *The SAGE Handbook of quantitative methods in psychology*, (pp. 23-45). Thousand Oaks, CA: Sage.
- Kozol, J. (2005). *The shame of the nation: The restoration of apartheid schooling in America*. New York, NY: Three Rivers.
- Kreysa, P. (2006). The impact of remediation on persistence of under-prepared college students. *Journal of College Student Retention*, 8(2), 251-270.
- Kuh, G., Cruce, T., Shoup, R., Kinzie, J., & Gonyea, R. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *The Journal of Higher Education*, 79(5).
- Laskey, M. & Hetzel, C. (2011). Investigating factors related to retention of at-risk college students. *Learning Assistance Review*, 16, 31-43.
- Lee, R. Draper, M., & Lee, S. (2001). Social connectedness, dysfunctional interpersonal

- behaviors, and psychological distress: Testing a mediator model. *Journal of Counseling Psychology*, 48(3), 310-318. Retrieved from [http://depts.washington.edu/uwcscs/sites/default/files/Social%20Connectedness%20Scale-  
-Revised%20\(SCS-R\).pdf](http://depts.washington.edu/uwcscs/sites/default/files/Social%20Connectedness%20Scale-Revised%20(SCS-R).pdf)
- Liao, H. (2014). Persistence at an urban community college: The implications of self-efficacy and motivation. *Community College Journal of Research and Practice*, 38(7), 595-611.
- Liff, S. (2003). Social and emotional intelligence: Applications for developmental education. *Journal of Developmental Education*, 26(3), 28-34.
- Lloyd, P. & Eckhardt, R. (2010). Strategies for improving retention of the community college students in the sciences. *Science Educator*, 19(1), 33-41.
- Lone Star College. (2016). Retrieved July 5, 2016 from <http://www.lonestar.edu/about-lsc.htm>
- Lothian, D. (2009). Obama: Community colleges can help boost ailing economy. Retrieved from <http://www.cnn.com/2009/POLITICS/07/14/obama.community.colleges/>
- Luna, N. & Martinez, M. (2013). A qualitative study using community cultural wealth to understand the educational experiences of Latino college students. *Journal of Praxis in Multicultural Education*, 7(1), 1-19. Retrieved from <http://digitalscholarship.unlv.edu/cgi/viewcontent.cgi?article=1045&context=jpme>
- McCabe, R. (2003). *Yes we can! A community college guide for developing America's underprepared*. Phoenix, AZ: League for Innovation in the Community College and American Association of Community Colleges.
- McCabe, R. (2003). *Yes, we can! A community college guide for developing America's underprepared*. Phoenix, AZ: League for Innovation in the Community College.
- Melguizo, T., Hagedorn, L., & Cypers, S. (2008). Remedial/developmental education and the

- cost of community college transfer: A Los Angeles County sample. *The Review of Higher Education*, 31, 401-431.
- Merisotis, J. & Phipps, R. (2000). Remedial education in colleges and universities: What's really going on? *Review of Higher Education*, 24, 67-85.
- Midgley, C., Maehr, M., Hruda, L., Anderman, E., Anderman, L., Freeman, K.,... Urdan, T. (2000). *Manual for the patterns of adaptive learning scales*. Ann Arbor, MI: University of Michigan. Retrieved from [http://www.umich.edu/~pals/PALS%202000\\_V13Word97.pdf](http://www.umich.edu/~pals/PALS%202000_V13Word97.pdf)
- Mullin, C. (2011). *The road ahead: A look at trends in the educational attainment of community college students (Policy Brief 2011-04PBL)*. Washington, DC: American Association of Community Colleges. Retrieved from <http://files.eric.ed.gov/fulltext/ED532604.pdf>
- National Conference of State Legislatures (NCSL). (2012). Improving college completion: Reforming remedial education. Retrieved from <http://www.ncsl.org/issues-research/educ/improving-college-completion-reforming-remedial.aspx>
- Nora, A. (2003). *Access to higher education for Latino students: Real or illusory?* In J. Castellanos & L. Jones (Eds.), *The majority in the minority: Expanding the representation of Latina/o faculty, administrators and students in higher education* (pp. 47-68). Sterling, VA: Stylus.
- Nunez, A., Sparks, P., & Hernandez, E. (2011). Latino access to community colleges and Hispanic-serving institutions: A national study. *Journal of Hispanic Higher Education*, 10(1), 18-40.
- Obama, B. (2009). Rebuilding something better. *The Washington Post*. Retrieved from



- <http://www.washingtonpost.com/wp-dyn/content/article/2009/07/11/AR2009071100647.html>
- O'Neill, S. & Thomson, M. (2013). Supporting academic persistence in low-skilled adult learners. *Support for Learning*, 28(4), 162-172.
- Orange, C. & Ramalho, E. (2013). Reducing the need for postsecondary remediation using self-efficacy to identify underprepared African-American and Latino adolescents. *Electronic Journal of Research in Educational Psychology*, 11(1), 51-74.
- Osburne, J. (2001). Academic disidentification: Unraveling under achievement among Black boys. In R. Majors (Ed.), *Educating our Black children: New directions and radical approaches* (pp. 45-58). New York, NY: RoutledgeFalmer.
- Parker, T. (2007). *Ending college remediation: Consequences for access and opportunity*. (ASHE/Lumina Policy Briefs and Critical Essays No. 2). Ames, IA: Iowa State University Department of Educational Leadership and Policy Studies.
- Pascarella, E. & Terenzini, P. (2005). *How college affects students: A third decade of research*. San Francisco: Jossey-Bass.
- Perry, M., Bahr, P., Rosin, M., & Woodward, K. (2010). *Course-taking patterns, policies, and practices in developmental education in the California Community Colleges*. Mountain View, CA: EdSource.
- Pew Research. (2016). *Five facts about Latinos and education*. Retrieved from <http://www.pewresearch.org/fact-tank/2016/07/28/5-facts-about-latinos-and-education/>
- Pintrich, P., Smith, D., Garcia, T., & McKeachie, W. (1991). *A manual for the use of the*

- motivated strategies for learning questionnaire (MSLQ)*. Ann Arbor, MI: National Center for Research to Improve Post-secondary Teaching and Learning. Retrieved from <http://files.eric.ed.gov/fulltext/ED338122.pdf>
- Raftery, S. (2005). Developmental learning communities at metropolitan community college. In C. Kozeracki (Ed.), *New directions for community colleges*, Vol. 129 (pp. 63-71). San Francisco, CA: Jossey-Bass.
- Reichardt, C. (2009). Quasi-experimental design. In R. Millsap & A. Maydeu-Olivares (Eds.), *The SAGE Handbook of quantitative methods in psychology*, (pp. 46-71). Thousand Oaks, CA: Sage.
- Rigali-Oiler, M., & Kurpius, S. (2012). Promoting academic persistence among racial/ethnic minority and European American freshman and sophomore undergraduates: Implications for college counselors. *Journal of College Counseling*, 16, 198 – 212.
- Rowley, S. (2000). Profiles of African-American college students' educational utility and performance: A cluster analysis. *Journal of Black Psychology*, 19(1), 3-26.
- Saenz, V., Bukoski, B., Lu, C., & Rodriguez, S. (2013). Latino males in Texas community colleges: A phenomenological study of masculinity constructs and their effect on college experiences. *Journal of African American Males in Education*, 4(2), 82-102.
- Saenz, V. & Ponjuan, L. (2011). *Men of color: Ensuring the academic success of Latino males in higher education*. Washington, DC: Institute for Higher Education Policy. Retrieved from <http://files.eric.ed.gov/fulltext/ED527060.pdf>
- Savi, K. (2011). *Community college student motivation and persistence to goals*. *Electronic Theses and Dissertations*. Retrieved from <https://digitalcommons.du.edu/etd/576>
- Schwartz, R. & Washington, C. (2002). Predicting academic performance and retention among

- African American freshmen men. *National Association of Student Personnel Administrators (NASPA) Journal*, 39(4), 354-370. <http://dx.doi.org/10.2202/1949-6605.1178>
- Seltman, H. (2015). *Experimental design and analysis*. Pittsburgh, PA: Author. Retrieved from <http://www.stat.cmu.edu/~hseltman/309/Book/Book.pdf>
- Strong American Schools. (2008). *Diploma to nowhere*. Retrieved from <http://www.edin08.com/>
- Sullins, E., Hernandez, D., Fuller, C., & Tashiro, J. (1995). Predicting who will major in a science discipline: Expectancy-value theory as part of an ecological model for studying academic communities. *Journal of Research in Science Teaching*, 32(1), 99-119.
- Teranishi, R., Suarez-Orozco, C., & Suarez-Orozco, M. (2011). Immigrants in community colleges. *The Future of Children*, 21(1), 153-169.
- Texas Higher Education Coordinating Board. (2012). *State of Higher Education in Texas, 2012*. Austin, Texas: Office of External Relations. Retrieved from <http://www.theccb.state.tx.us/>
- Tinto, V. (1975). Dropouts for higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89-125.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition*. Chicago: University of Chicago Press.
- Tinto, V. (1999). Classrooms as communities: Exploring the educational character of student persistence. *Journal of Higher Education*, 68(6), 599-624.
- Tinto, V. (2004). *Student retention and graduation: Facing the truth, living with the consequences*. Washington, D.C.: The Pell Institute.
- Tovar, E. (2015). The role of faculty, counselors, and support programs on Latina/o community college students' success and intent to persist. *Community College Review*, 43(1), 46-71.

- Upton, G. (1992). Fisher's exact test. *Journal of the Royal Statistical Society, Series A*, 155(3), 395-402.
- Venezia, A., Bracco, K., & Nodine, T. (2010). *One shot deal? Students' perceptions of assessment and course placement in California's community colleges*. San Francisco, CA: WestEd.
- Visher, M., Weiss, M., Weissman, E., Rudd, T., & Wathington, H. (2012). *The effects of learning communities for students in developmental education: A synthesis of findings from six community colleges (The Learning Communities Demonstration)*. New York, NY: Community College Research Center, Teachers College, Columbia University.
- Walton, G., & Cohen, G. (2007). A question of belonging: Race, social fit, and achievement. *Journal of Personality and Social Psychology*, 92(1), 82-96. doi.org/10.1037/0022-3514.92.1.82
- Wimberly, G. & Noeth, R. (2005). *College readiness begins in middle school* (ACT Policy Report). American College Testing. Retrieved from <http://files.eric.ed.gov/fulltext/ED483849.pdf>
- Yilmaz, K. (2013). Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences. *European Journal of Education*, 48(2), 311-325.
- Zhao, C. & Kuh, G. (2004). Adding value: Learning communities and student engagement. *Research in Higher Education*, 45(2), 115-138.

## Appendix A

### IRB Approval Letter from Johns Hopkins University

Page 1 of 2



#### Homewood Institutional Review Board

3400 N. Charles Street  
Wyman Park Building, Suite N468  
Baltimore MD 21218-2685  
410-516-6580  
<http://homewoodirb.jhu.edu/>

Michael McCloskey, PhD  
IRB Chair

**Date:** March 15, 2018

**PI Name:** Yolanda Abel

**Study #:** HIRB00006175

**Study Name:** Developmental Students' Persistence Towards Graduation In Paired-Course Programs Among African American & Latino Males In Community Colleges

**Date of Review:** 3/1/2018

**Date of Approval:** 3/1/2018

**Expiration Date:** 3/1/2021

The above referenced study has been *approved*.

<b>Review Type:</b>	Exempt
<b>Funding Agency:</b>	Not funded
<b>Grant or Contract Number:</b>	
<b>International Sites:</b>	No
<b>Maximum number of participants:</b>	928
<b>Vulnerable populations:</b>	None
<b>Consent process:</b>	Waiver of informed consent
<b>Assent Process:</b>	

Please keep in mind that it is your responsibility to inform the HIRB of any adverse consequences to participants that occur in the course of the study, as well as any complaints from participants regarding the research. In conducting this research, you are required to follow the requirements listed in the *HIRB Policies and Procedures Manual*.

Study Team Members:  
EuraDell Davis

APPROVAL IS GRANTED UNDER THE TERMS OF **FWA00005834** FEDERAL-WIDE ASSURANCE OF COMPLIANCE WITH DHHS  
REGULATIONS FOR PROTECTION OF HUMAN RESEARCH SUBJECTS

## Appendix B

### IRB Approval to Conduct Research at Lone Star College



January 23, 2017

Ms. EuraDell Davis  
IRB Protocol 2017098

Dear Ms. Davis:

The research project application for your protocol titled, *"Developmental Students' Engagement in Paired-course Programs & Persistence towards Graduation among African American & Latino Males in Community Colleges"*, has been reviewed by the Lone Star College ("LSC") Institutional Review Board ("IRB"). The outcome of the review is as indicated below.

**Approved: Expedited 45 CFR 46.102 (2)(i)**

*This approval will be valid for 12 months after the date of this letter.* If the study extends beyond this period it will be subject to continuing review and will require the submission of a supplemental application at that time.

Please note that any changes to the protocol or procedures for this project after the initial review must be promptly submitted to the LSC IRB for review. In addition, any adverse events should be reported to the LSC IRB Office as soon as possible.

The LSC IRB requests that you share the results of this research project with the IRB office when you have completed it. The data from your study could be very useful to grant writers and to others in the LSC System. You will be given complete credit for its authorship.

**This letter constitutes the official written response of the LSC Institutional Review Board.**  
Thank you, and best of luck on your study!

A handwritten signature in blue ink that reads "April M. Odell".

April M. Odell  
Administrator, Institutional Review Board

5000 Research Forest Drive  
The Woodlands, TX 77381-4356  
832.813.6500 LoneStar.edu

## Appendix C

### Tables of Summarized Findings for Needs Assessment

Table 23

*Frequency Distribution of Students' Gender*

Gender	N	%
Male	40	40.0%
Female	60	60.0%
Total	100	100.0%

Table 24

*Frequency Distribution of Students' Marital Status*

Marital Status	N	%
Married	25	25.0%
Single	75	75.0%
Total	100	100.0%

Table 25

*Frequency Distribution of Students' Age*

Age	N	%
18-25	76	76.0%
26-35	13	13.0%
36-45	7	7.0%
46-55	4	4.0%
Total	100	100%

Table 26

*Frequency Distribution of Students' Course*

Course	N	%
ENGL 0302	37	37.0%
ENGL 0309	63	63.0%
Total	100	100.0%



Table 27

*Frequency Distribution of Students' Ethnicity*

Ethnicity	N	%
Latino/Latino	40	40.0%
Asian/Pacific Islander	9	9.0%
White/Caucasians	30	30.0%
Black/African American	18	18.0%
Other	3	3%
Total	100	100%

Table 28

*Correlation among Self-regulation Questions (N=100)*

	Q1	Q2	Q3	Q4	Q5	Q6	Q7
1. During class time I often miss important points because I'm thinking of other things.	1						
2. When reading for this course, I make up questions to help focus my reading.	-.049	1					
3. When I become confused about something I'm reading for this class, I go back and try to figure it out.	.040	.229*	1				
4. Before I study new course material thoroughly, I often skim it to see how it is organized.	.023	.207*	.404**	1			
5. When I study for this class, I set goals for myself in order to direct my activities in each study period.	.179	.291**	.261**	.419**	1		
6. I often find that I have been reading for class but don't know what it was all about.	.479**	-.047	.136	.045	.115	1	
7. If I get confused taking notes in class, I make sure I sort it out afterwards.	-.015	.143	.395**	.186	.044	.032	1

## Curriculum Vitae

### PROFILE

- Accomplished educator with demonstrated ability to teach, motivate, and direct students while maintaining high interest and achievement.
  - Articulate communicator, able to effectively interact with diverse populations of students at a variety of academic levels.
  - Consistently maintain excellent relations with students, faculty, and administrators.
  - Self-motivated with strong planning, organizational and leadership skills.
- 

### EDUCATION

- 2018 Doctor of Education** - Johns Hopkins University, Baltimore, Maryland  
Specialization - Entrepreneurial Leadership
- 2005 Master of Education** - Houston Baptist University, Houston, Texas  
Specialization - Curriculum and Instruction
- 1999 Bachelor of Science** - University of Houston-Downtown, Houston, Texas  
Specialization - Social Science
- 1997 Associate of Arts** - Houston Community College, Houston, Texas

### LICENSURE AND CERTIFICATIONS

- 2013** Texas Principal Certificate - Standard, EC – 12: Sam Houston State University
- 2013** Professional Development and Appraisal Training Certificate (PDAS)
- 2010** Instructional Leadership Development Certificate (ILD)
- 2010** Texas Educator's Certificate - Standard: English, Language Arts and Reading, 4-8
- 2004** Texas Educator's Certificate - Standard: English, Language Arts and Reading, 8-12

### PROFESSIONAL EXPERIENCE

#### PROFESSOR, DEVELOPMENTAL ENGLISH

**2011 - PRESENT**

Lone Star College – Montgomery, Conroe, TX 77384

- Coordinate and provide workshops for future nursing students in preparation for the HESI exam.
- Instruct students to improve and refine general reading and writing skills *on-line* and *face-to-face*.
- Provide instruction on comprehension, building vocabulary, and discovering patterns and signals in reading selections, which aid in understanding.

- Conduct observations for adjunct instructors in the following areas: Organizational Skills, Instructional Skills and Professional Responsibilities.
- Serve on hiring committee: screen applications, interview candidates and make selections for hiring decisions.
- Serve on the curriculum team representing the Developmental English department
- Served as Curriculum and Instruction Faculty Chair for Developmental English
- Serve as Department Chair Lead for Developmental English

#### **READ 180 & ADVANCED ACADEMIC STRATEGIES TEACHER**

**2008 - 2011**

Cy-Lakes High School. Cypress Fairbanks ISD, Houston, Texas.

- Assist students to develop and enhance academic study strategies, such as organization, learning styles, information gathering and processing, communication, note taking and goal setting.
- Assist struggling readers through differentiated instruction, adaptive and instructional software, and high-interest literature in reading, writing and vocabulary skills.
- Beginning Teacher Induction Mentor (BTIM): Assisted new teachers in classroom management, instructional strategies, assessment strategies, and motivation of student learning. Conducted observations and met regularly to provide constructive and feedback.

#### **PRE-K TEACHER**

**2007 - 2008**

Theodore Roosevelt Elementary School. Elizabeth, New Jersey

- Utilizing play and interactive activities to develop language and vocabulary introduce scientific and mathematical concepts and improve social skills.
- Planning and organizing a range of individual and group activities, including role play, movement, dance, singing, games, arts and crafts and nature activities.
- Planning the indoor and outdoor environment to provide a positive and safe learning environment.
- Monitoring and reporting on children's development and identifying those with possible learning difficulties, consulting other professionals where appropriate.
- Communicating effectively with parents about their children's development.

#### **ADJUNCT INSTRUCTOR - DEVELOPMENTAL READING**

**FALL 2006**

Kean University. Union, New Jersey

- Instruct students to improve and refine general reading comprehension skills.
- Apply appropriate strategies to increase reading rate and efficiency to reading varying tests in paired courses.
- Provide instruction on comprehension, building vocabulary, and discovering patterns and signals in reading selections, which aid in understanding.

#### **READING TEACHER AND DYSLEXIA COORDINATOR**

**2005 - 2006**

Cy-Fair High School. Cypress Fairbanks ISD, Houston, Texas.

- Provided appropriate instruction for students with dyslexia using strategies that utilize intensive, multisensory, phonetic methods and a variety of writing and spelling components.
- Assessed students for characteristics of dyslexia.
- Used district's modules to provide training to all staff members on dyslexia.

- Assisted students with learning disabilities to succeed in the regular classroom and learning center environment through modifications and support.
- Supervised site dyslexia program and facilitators.

#### **ADJUNCT INSTRUCTOR - DEVELOPMENTAL READING**

**2003 - 2005**

Lone Star College – North Harris, Houston, Texas.

**2009 - 2010**

- Provided instruction on comprehension, building vocabulary, and discovering patterns and signals in reading selections, which aid understanding.
- Instructed students in comprehension through various types of reading passages by using metacognitive strategies to determine self-need and applying fix-up strategies to correct failures in comprehension.
- Offered students instruction on the critical thinking process as it relates to comprehension through various types of reading passages by applying knowledge gained from reading, synthesizing knowledge gained from reading, and critically evaluating reading.

#### **FIRST AND SECOND GRADE TEACHER**

**2001 – 2003**

Blackshear and Seguin Elementary. Houston ISD, Houston, Texas.

- Developed lesson plans and instructed First and Second graders in all subject areas.
- Instructed reading groups in both whole language approach and basic readers.

#### **ENGLISH TEACHER**

**2000 – 2001**

Aldine Ninth Grade Center. Aldine ISD, Houston, Texas.

- Instructed students on grammar components for English course, thus enhancing the learning experience and increasing student interest in core material.
- Instructed students on Adolescent Literature and Practical Writing.
- Collaborated with department team members to ensure vertical and horizontal alignment.

#### **NATIONAL AND STATE CONFERENCES**

National Institute for Staff and Organizational Development (NISOD) Conference. *Co-Presenter* with Ms. Elizabeth Pena, Dr. Barbara Buchanan, and Dr. Lana Myers. Presentation: “Strategic Decision Making: Fast-Tracking Developmental English Students.” Austin, TX, *May 2013*

College Academic Support Program (CASP) Conference, Houston, TX, *November 2012*.

Distance Teaching and Learning Conference, Madison, WI, *August 2012*

Accelerated Learning Conference, Baltimore, MD, *June 2012*

College Academic Support Program Conference (CASP), Austin, TX, *October 2011*